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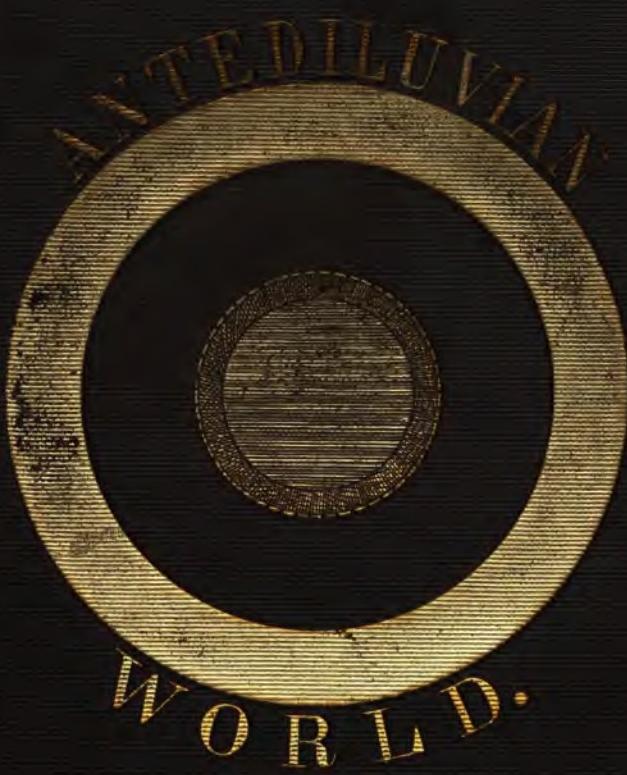
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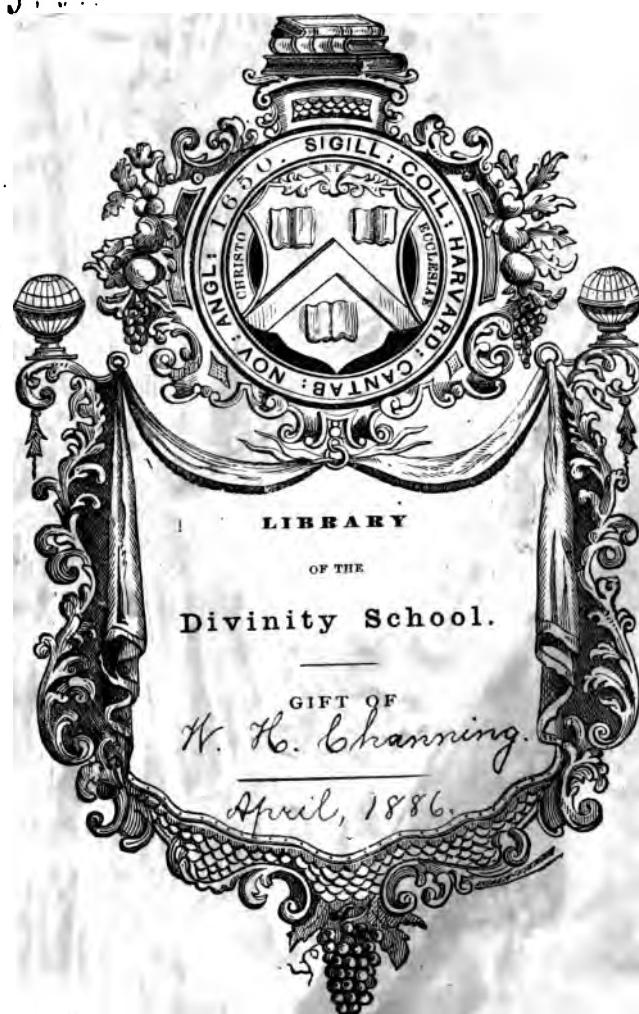
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**NEW THEORY
OF THE
CREATION AND DELUGE.**

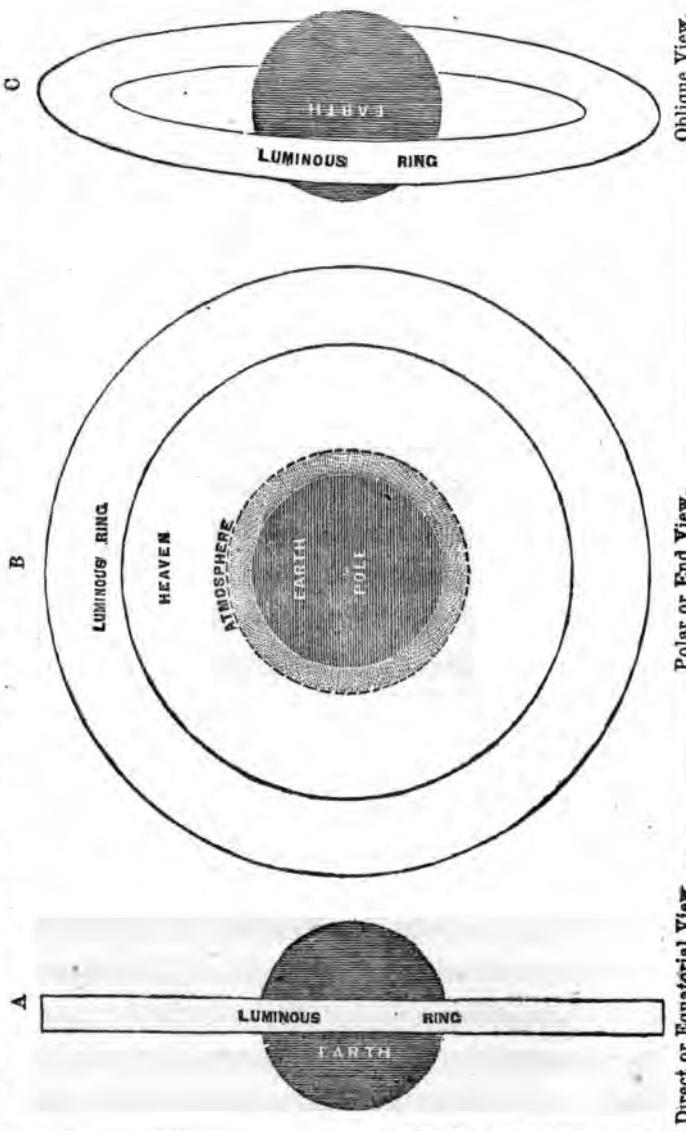
"Truths would you teach, or save a sinking land?
All fear, none aid you, and few understand."





FRONTISPIECE.

Appearance of the Earth prior to the Deluge, as seen from some of the other Planets.



Antediluvian Vaporic Ring.

Oblique View.

Polar or End View.

Direct or Equatorial View.

THE CREATION & DELUGE,

According to a New Theory;

CONFIRMING THE BIBLE ACCOUNT, REMOVING MOST OF THE
DIFFICULTIES HERETOFORE SUGGESTED BY
SCEPTICAL PHILOSOPHERS,

AND

*Indicating Future Cosmological Changes down to the
Final Consummation and End of Earth.*

"All Nature is but Art unknown to thee;
All Chance, Direction which thou canst not see;
All Discord, Harmony not understood;
All partial Evil, universal Good."—*Essay on Man.*

C.
PHILADELPHIA:

Printed for the Author by H. Orr, No. 100 Chestnut Street.

.....
1854

Entered according to the Act of Congress, in the year 1854, by H. ORR,
in the Clerk's office of the District Court for the Eastern District of Penn-
sylvania.

A R G U M E N T.

The Creation was the result of natural law—there was a physical and moral necessity for the Deluge; both of which phenomena must have taken place *about the time* and in the *way and manner* described by Moses.

Neither the Creation nor the Deluge was “a miracle,” or a deviation from the known laws of Nature, nor was either of them an event contrary to the established constitution and course of things. Each happened in its proper time and place. This doctrine does not derogate from the attributes of the Creator; on the contrary, it exalts our ideas of His omnipotence and beneficence. Neither does it lead to Materialism, Fatalism, or Atheism, on the one hand, nor to “Spiritualism,” Scepticism, or Pantheism on the other.

The habitable portion of the Antediluvian world is yet under water. A great change is about to take place on this Earth. The type of animal life is progressing; *a new race of animals*, as much superior to man as man is to a monkey, will hereafter appear; else we have reached the culminating point and retrogression or destruction must follow. Important Sidereal changes are approaching. *The Sun is to decrease in size*, until it will appear no larger than a star of the first magnitude!

The Earth was formerly surrounded by a luminous ring, like Saturn:—what formed and what became of that ring.—A Deluge will occur upon that planet, similar to the one which overwhelmed the Earth in the days of the patriarch Noah. “There *was* light” before the Sun, Moon, or Stars were visible on Earth. The whole number of persons destroyed by the flood did not exceed those who die in the city of New York in a single year. The account of the

Creation, transmitted from Adam to Jacob by two men, one of whom received it from Adam, the other communicated it to Jacob. The history of the Deluge given to Jacob and through him to Moses, by an eye witness of that catastrophe. There was one and only one general Deluge. The Ark was large enough to hold all the animals alluded to in the Biblical account, with all necessary provender.—A universal Lent.—There have been Creations and Destinations of Planets, postdiluvian as well as antediluvian.

The six days of Creation, and the years of the lives of the Patriarchs, have been of the same length as our present days and years, neither longer nor shorter. The reason of the antediluvian longevity and the postdiluvian brevity of human life explained. The End of Earth, and final sublunary consummation.

This new theory accounts for many of the phenomena described in the Bible, heretofore *not satisfactorily explained*, removes most of the doubts suggested by unbelieving Philosophers and Sceptics, and is calculated to disabuse the public mind from the insinuations of mistaken, although it may be, well meaning investigators into the mysteries revealed to man by the inspiration of the Almighty, men of untiring industry and research, many of whom felt conscious of the integrity of their purpose, and were not to be silenced by a dogmatical assertion of “Divine Authenticity.”

Finally, without relying on inspiration (and without denying it,) the account contained in the Scriptures of Truth, is probable, rational, and worthy of belief and acceptation.

A D V E R T I S E M E N T.

WHOEVER estimates the value of a book according to its size or cost of paper, printing and binding, without allowance for brainwork, is requested to lay this down, and not attempt its perusal; it was not written for such. But all who judge of the merits of a work by the number, magnitude or novelty of ideas; who do not believe a silver dollar is as large as a cartwheel, and who are satisfied that a purchaser may sometimes receive the worth of his money, are earnestly invited to give the following pages a deliberate, candid examination, and the author will cheerfully and respectfully await their decision.

Part of these essays were written forty years ago, and the others at different subsequent periods, which account for the desultory manner in which the subject is treated. Being intended for the general reader, scientific terms have been omitted as far as practicable; and where that was not altogether convenient, explanations have been added which to the learned may appear unnecessary; should any such honor this little book with a perusal, it is hoped they will accept this as a sufficient apology.

This work does not pretend to prove, with mathematical precision, the truth of the Bible, but is only a

humble endeavor to rescue the Scriptures and science from the false position of antagonism, in which some have attempted to place them; and to show that the Mosaical account of the Creation and Deluge is *reasonable* and *probable*. Hence, we quote from the Bible, not to prove the truth of our assertion, or of the Bible itself, but to show *the probability* of the Mosaical account—and that it is *not* inconsistent with itself, as some sceptics have asserted, but is a rational account, in accordance with the higher grades of modern philosophy, and worthy of belief and acceptance.

Those portions which are *new*, being the only parts the paternity whereof the author acknowledges, are the only portions which he will undertake to defend; and so far as they go, he fearlessly, but respectfully, throws down the gauntlet, and stands ready to defend his offspring to the best of his ability, against all attacks from whatever quarter they may come.

The work is published anonymously, in order that it may be judged by its merits or demerits, and not by the opinion which the reader, whether friend or foe, may entertain of the writer.

P R E F A C E.

THIRTY-NINE years ago, being in a large company, the author was asked, "Why Oaks sprang up when Pines were cut down?" &c. Having assigned the cause for that and several other natural phenomena, in the way explained in the following pages, he was taken aside by a "minister of the gospel" and told, he was "in a very dangerous state of mind"—that the "doctrines" he had advanced were "atheistical!" and the sooner he could, by confession and prayer purge his soul from that heresy, the better it would be for himself and for society! Being young, and not having a very exalted opinion of his own abilities, he refrained from publishing many of those views, contenting himself with occasionally explaining them whenever he met with an independent, thinking person, until in the year 1844 he was invited to deliver a lecture before the Philadelphia Lyceum:—The subject was, "the *Past*, the *Present*, and the *Future*:— or, America, *as it was*—*as it is*—and *as it will be*—wherein he incorporated most of the *new* views, contained in these Essays; but as it was necessary to compress them into few words, in order not to encroach too much upon the subject of the lecture, he felt he had not done just-

ice to the New Theory nor to himself; and therefore, when requested to write for one of the Philadelphia papers, he embraced the opportunity to spread before the public a portion of these opinions which, after many years of reflection, he is satisfied are neither "atheistical" nor "dangerous." They are now enlarged, and, with many other observations and reflections, published in this form, in order that they may reach those who would never see them in the columns of a newspaper published in this section of the union.

The ideas and expressions of other writers have been freely used whenever they suited the purpose, without stopping to name the author, or distinguish them in any way except by marks of quotation; having generally repeated from memory, the author's name and especially the book and page, were often not recollect ed, and other engagements did not allow time to search for them: the well-informed reader can supply the deficiency, and with this explanation, it is hoped will excuse the omission.

TO ALL WHO CAN THINK,

AND

DARE TO THINK FOR THEMSELVES,

THE FOLLOWING PAGES ARE RESPECTFULLY

D E D I C A T E D

BY THE

AUTHOR.

N O T E .

HAVING inculcated the doctrine that war, pestilence, famine, sickness and many other evils, are the result of the ignorance, folly or wickedness of mankind, and *not special acts of Divine Providence*; and having intimated that *preparatory legislation* is needed (in anticipation of the great change which is approaching;) we had prepared an additional chapter, giving instances of the one, and containing an abstract of the other; together with such reasons and reflections concerning the same, as appeared to be necessary; but, finding justice could not be done to the subject, to the reader or to the writer, within the limits proper for an addendum, and that it would partake more of the nature of a treatise upon political economy, than of a philosophical inquiry into the phenomena of the Creation and Deluge as applied to the cosmogeny of the Bible—the insertion has been reluctantly omitted.

In speaking of internal attraction, and of the interior and exterior surface of the crust of the Earth, we do not wish to be understood as asserting, that the earth is a hollow globe or oblate spheroid, or that any portion of the sea has no bottom; we merely intended to say that, if the law of attraction below the surface be as we have stated, then no danger would arise even if a part of the sea *had* no bottom. The wisest know of what the outer crust is made, only to the depth of about ten miles, (and are not sure as to *all* of that) We can speak with equal certainty of the *state, condition*, and some of the *properties* of the great mass below. But the limits of our work forbade further examination of that subject.

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ERRATA.

- Page 75, for sixty-one,..... read fifty-six.
 “ 76 in the 16th line from the top, for 56,..... read 54.
 “ 19th line from the top, for 54,..... read 56.
 “ 2d line from the bottom, for 53,..... read 77.
 “ 77 1st line from the bottom, for 204,..... read 228.

The Creation and Deluge.

CHAPTER I.

WHOEVER attempts to introduce anything *new*, in Science, Morality, Political Economy, Philosophy or Philanthropy, must expect to meet with doubts and misapprehensions: nevertheless, *reasonable* persons will not condemn, until they have first given an attentive hearing. The time has passed when *novelty* was, of itself, sufficient to insure rejection or derision.

Philosophers, Sceptics and Atheists, occasionally have endeavored to discredit the Scriptural account of the Creation and Flood, by suggestions of the following character:

No rain which we can conceive of, could in forty days cover the earth with water *five miles deep*, which it would have to do, if “all the mountains were covered.”

Where could so much water come from?—If all the vapor in the atmosphere were suddenly condensed into water, it would not amount to one foot in depth!

Waiving these objections, and supposing the earth to have been so covered, what became of that vast

amount of water? (of the extra five miles above the level of the ocean.)

If the water prevailed over the earth for ten months and twelve days, all terrene life (vegetable as well as animal,) must have been destroyed, and "every living thing and all cattle," that were in the Ark, when released, if not before, would have perished with hunger!

How could a vessel of the size of the Ark, contain eight persons, and single or septenary duplicates of all other animals, with sufficient sustenance or provender for twelve months?

We find no antediluvian remains of man, nor of the works of man! Consequently there is no evidence that such persons ever existed.

If a knowledge of the Creation or of the Deluge were necessary or useful to man, why should that information have been withheld until "revealed" to Moses?

How could there be "*light*," before the sun, moon, or stars were created?

Can it be possible, that a beneficent Creator would make millions of human beings, and then destroy them by a premature, sudden and violent death?

The Creator being a just God, and no respecter of persons or of creatures, why should one class, namely, marine animals, be exempted from the general destruction?—For, nobody pretends that *fishes* were drowned in the flood.

How could all the vegetables and animals have been

created in *six days*? The latter would have starved whilst the former were arriving at maturity! On the contrary, it must have required at least "six thousand years."

It is perfectly absurd to talk of human beings having lived from 500 to nearly 1000 years.

There have been many Floods upon this earth, but no "general Deluge." Noah's flood was a very small affair, probably only an overflow of some river.

If the Deluge is to be considered as "a miracle," all reasoning is unnecessary, for it is just as easy to believe a *great* miracle as a *small* one: whenever we have to leave natural laws, and resort to the supposition of a display of miraculous power, speculations are useless, we must "go it blind;" but if it be true, that

"The first Almighty cause,
Acts not by partial but by general laws,"

then we are not bound to believe descriptions of physical phenomena, which are contrary to natural law, reason, and common sense.

The Bible account is either *true* or it is *false*. If the first chapter be *not* true, it invalidates the "first five books," (all said to be written by the same hand.) If Moses is not to be believed, how can we believe the prophets? If the Biblical account of the destruction of the world by the Deluge, be *true*, it would look as if there had been a *mistake* at the Creation, and therefore, the maker had to blot it out and begin anew.

These, and other similar doubts, have been raised

against the Scriptural account, by men who professed to be seeking after *truth*—men of untiring industry and research, many of whom felt conscious of the integrity of their purpose, and were not to be deterred from investigation, by a dogmatical assertion of “Divine authenticity.”

It is important to ascertain, if possible, the truth or fallacy of the Mosaical account, for if we can show that it is probably true, and in harmony with the laws of nature, then may we more readily yield our assent to those portions which, in the present state of human knowledge, cannot as yet be tested by man.

Therefore, laying aside all prejudice against the sacred volume, or bigotry in its favor, let us calmly, seriously, and earnestly endeavor to investigate the facts therein narrated.

We are about to consider what is called the *new theory* of the Creation and Deluge; but it is not *all new*: part has long been known, yet, it is necessary to introduce that which is *known* in order to explain that which is *unknown*; for

“What can we reason, but from what we know?”

This new theory, accounts for many of the phenomena described in the Bible, *not heretofore satisfactorily explained*; it removes most of the doubts suggested by unbelieving Philosophers and Sceptics: it is calculated to disabuse the public mind, from the insinuations of mistaken, although it may be, well meaning, investigators into the mysteries revealed to man by

the inspiration of the Almighty ; and, without affirming, and without denying his divine authority, it shows, that the account given by Moses is *rational* and *probable*—the usual objections thereto arising from a *misapprehension* of the text.

The Creation was the result of *natural laws*, and there was a *moral and physical necessity for the Deluge*.

The Flood was not caused by rain alone.

The earth, like Saturn, was formerly *surrounded by a luminous ring*, (we shall endeavor to ascertain what formed, and what became of that ring.)

"There *was* light," before the light of the sun, moon, or stars, reached this earth !

The habitable portion of the Antediluvian world is now under water !

Probably not more than ten or fifteen thousand persons were destroyed by the Flood ! Being about the number of deaths in the city of New York in a single year.

The history of Creation could have been, and most likely was, transmitted from Adam to Jacob by *two men* ! one of whom received it from Adam, and the other communicated it to Jacob, who through Joseph, made it known to the Elders of Israel, and the Magi of Egypt, from whom *Moses* might have received it.

Other historical facts have been handed down through much more equivocal testimony, and admitted as true, by all classes of men.

In the absence of writing, and of printing, the history of the Creation and Deluge might have been in-

terpolated, forgotten, or entirely lost, had it not been for a wonderful triplication of the means of preservation; for in that case, we should have had to *depend upon inspiration*, corroborated only by geology, whereas *now*, we have the probability, almost amounting to certainty, of its having been transmitted orally also: therein we see the wisdom and design of the Creator in giving a *long term of life* to the original inhabitants; which object being accomplished, it was evidence of benevolence and forecast, to shorten the average period of human existence, whereby many more sentient beings could enjoy life, than if the original term had been continued. Independent of intuition or inspiration, the earlier antediluvians could only have acquired knowledge by actual observation and experiment; and not having the art of printing, many things would have been lost to succeeding ages, had the term of life been no longer than it is at present.

It has been observed, that when there are two or more ways to accomplish an end, the Almighty always selects the best, and generally, if not universally, the most simple;—had the present term of human life been originally adopted, the account of the Creation must have passed through many, instead of only one person from Adam to Noah.

The account of the Deluge was probably given to Abraham, Isaac, and Jacob, by those who had been eye witnesses of that catastrophe. It will be shown that two of the passengers in the ark, lived to the time of Abraham, and one of these until the time of Jacob;

and, as the Deluge was the most remarkable event in their lives, no doubt, in their old age, they related the story to such as were then living; for it is the nature of old men, to become retrospective and communicative upon the occurrences of their early days. This does not *contradict*, if it does not *confirm* the Christian and Hebrew belief, that the Pentateuch was written by inspiration.

The six days of Creation, and the years of the lives of the patriarchs, will be shown to have been of the same length as our present days and years, and no longer!

In order to establish the foregoing positions, we will test the Biblical Chronology by known data.

The antediluvian animals consisted of only a few classes, orders, families, genera and species; so that the ark was quite large enough. Natural history and geology confirm this, and so far as they have a bearing thereon, they confirm other parts of this theory.

To deny there having been one general Deluge, is about as rational as to deny the Creation; for there is nearly as much evidence of the one as of the other. Certainly there is far more evidence of a general deluge, than of "a number of small floods;" and yet we do not deny that there may have been many partial inundations, and we can account for some of them.

The difficulties to which we have alluded, arise in part, from a misapprehension of the text. For instance, the Bible does not say the water was five miles deep; *that* is a mistake of modern Philosophers, as will be shown in our next chapter.

CHAPTER II.

“Some hold the heavens, like a top,
 Are kept by circulation up,
 And wer’t not for their wheeling ’round,
 They’d instantly fall to the ground.”

* * * * *

Mountains exist at present about five miles high; but we have no evidence that there were such, before the Flood. Moses says; “fifteen cubits upward did the waters prevail: and the mountains were covered.” The Jewish cubit was not quite twenty-two inches; so that the flood spoken of in holy writ, was only about twenty-eight feet in depth—not “five miles.” Learned men generally admit, that “in the beginning,” the earth was in a heated, gaseous, fluid or incandescent state, and that, as it cooled, it hardened into rocks, the disintegration of which formed what is called ground, the surplus water becoming separated, and remaining in a fluid, vaporic or steam-like state. It is evident, from the well-known laws of motion operating upon a body in such a state, that the superficial land in the first instance, was nearly level, forming vast morasses or marshes, with occasional pieces of meadow or upland. The fauna and flora of the antediluvian world, as we now find them embedded in the rocks, corroborate this idea: the great Saurian animals (resembling enormous lizards or crocodiles)—the shells, the plants, all evince a low

marshy, or swampy soil, a warm climate, and abundance of shallow water: for example; cryptogamous plants, having their fruit concealed and flowerless, such as mushrooms, ferns, mosses and sea-weeds;—monocotyledonous plants, whose seeds have but one lobe, as palms, rushes, lilies, grasses, &c.—lycopodiums, (ground pine,) such as are used in the decoration of churches at Christmas, &c.

There were *then* no elevations such as we now call mountains. The term mountain was a *diminutive*, and did not originally express the idea which it now does; hence, Moses uses the expression, “all the *high hills*, that were under the whole heaven, *and the mountains, were covered.*” This, taken in connexion with the small depth of water required to cover them, leads to the inference, that the high hills were not mountains, and that the *mountains* were not *high hills*: for, if his testimony is to be taken, neither the high hills nor the mountains were more than twenty-eight feet in height.

We have proved that Moses did not say that the waters were “five miles deep,” but, on the contrary, that they were only twenty-eight feet deep; and consequently, he did not attempt to exaggerate the catastrophe. We will nevertheless admit, that even *that* depth was far more than could be obtained from the atmosphere, supposing it to have rained violently for forty successive days and nights over all the world at the same time; which, without extraneous aid, is impossible! The first foot of water would exhaust the moisture from the atmosphere, and unless there were

some other source than evaporation, it could never increase beyond that depth. But there *was* another source: as we read in Genesis I. 6 to 10, inclusive—

“And God said, let there be a firmament in the midst of the waters: and let it divide the waters from the waters.

“And God made the firmament, and divided the waters which were under the firmament from the waters which were above the firmament: and it *was* so.

“And God called the firmament, Heaven: and the evening and the morning were the second day.

“And God said, let the waters under the heaven be gathered together unto one place, and let the dry land appear: and it *was* so.

“And God called the dry land earth; and the gathering together of the waters called he seas: and God saw that it was good.”

There are no waters *now* either in, or above this firmament; for, by our telescopes, we can penetrate far, very far, beyond that heaven, and see other heavens, with other suns and worlds innumerable; but no water intervenes: therefore, *that* water is not there *now*; that it *was* there once, is highly probable; for, (independent of the assertion of Moses, that prior to the creation of man “the Lord had not caused it to rain upon the earth, but there went up a mist *from the earth*, and watered the whole face of the ground,”) by the laws of dynamics as applied to spouting fluids,

the centrifugal force and the great velocity of the earth's motion, whilst the materials of which it was composed were excessively heated, the steam might have been driven off until its levity corresponded with that of the higher altitudes, and there, equipoised and retarded from further progression by the centripetal force or law of gravitation, have revolved around the earth in a ring, like those of Saturn. Then, as the point of perpetual congelation descended, it would have become a narrow band or ring of ice or snow, encircling the whole earth, at a high elevation; reflecting the light of the sun or emitting its own light, (as hereinafter explained,) and appearing at a distance to be highly luminous.

[Whilst this work was passing through the press, the proof sheets were submitted to a learned friend for inspection and criticism, who suggests that, meeting a colder atmosphere, the steam must have been condensed into rain and fallen to the earth, and therefore could not have formed such a ring.

That this would be the case at present, is probable; but we must recollect, that the circumstances at and before the Creation, were very different from what they are now.

According to the modern theory of the origin of the Earth, the space between this planet and Mars had then lately ceased from being a portion of the Sun itself; and that luminary, after the earth was formed, being as large as the orbit of Venus, and consequently nearer the earth than it is now, the temperature here

must have been, even after consolidation, at least as great as that of Mercury, which is seven times that of the Earth; and therefore, the surrounding space was then at too elevated a temperature to produce the condensation of steam by cold, even at the great altitude to which we have supposed the steam to have arisen.]

"In the beginning," when what now constitutes the solid parts of the Globe, were at a red, or perhaps a white heat, the freezing point must have been at a vast distance from the Earth. What is now water being then *steam*, rising to a great altitude and forming the aforesaid ring, would tend, together with the cooling of the surface of the globe, to lower the point of perpetual congelation, until it would gradually descend to, and freeze the whole of that vaporic ring; a condensation, or agglomeration, or both, would then take place in the particles forming that ring; thus increasing the density and gravity of these conglomerates, and causing them to commence their downward course, as in the case of snow and rain; which downward tendency would be somewhat accelerated by the uprising of the mountains to the height of nearly five miles.

It would have required many centuries so to reduce the temperature, as that the point of congelation should descend to, and embrace this vaporic ring—and, even then, the condensation and consequent descent would be *slow at first*, but at *last* extremely *rapid*.

This vast body of water, snow, or ice, surrounding

the earth in the equatorial region, operated like a cloud, sheet or covering, and prevented the radiation of heat from the earth's surface; thus, in part, accounting for the equalization of the tropical climate, which existed nearly all over the globe prior to the general deluge; or it might have produced this effect by refracting or bending the sun's rays, causing them to fall more perpendicularly on what are now the temperate and frigid zones; or both these modes of action may have occurred harmoniously at the same time.

The level surface of the globe, (which at that time was without mountainous ranges of highly elevated land, without rain or clouds,) the absence of great oceans to temper the atmosphere, and the heated and comparatively thin crust of the earth prior to the Deluge, will also aid us in accounting for the ardent climate, which then belonged to what are now called the temperate, and a portion of the frigid zones.

Opposite electrical conditions coming together, produce *light*; (the aurora borealis is supposed to be caused in that way;) consequently, this ring might have emitted light from one side, whilst it reflected the rays of the sun from the other.

A time arrived, when this watery ring yielded to the attraction of gravitation, and descended to the earth; and to this, Moses alluded when he said, "the windows of heaven were opened;" and this was the "flood of waters" which God told Noah he would "bring" upon the earth.

Here then was a cataract as much superior to Nia-

gara, as Niagara is to the smallest mill dam! This tremendous water-fall continued for five months!—Imagine the waters of the St. Lawrence, Hudson, Delaware, Susquehanna, Mississippi and Amazon to be united and constantly falling to the earth, from a height of many miles, for five consecutive months, accompanied all that time by rain, (caused by this violent commotion,) which rain, for the first forty days and nights, poured down in torrents; and the bottom of the sea continually exploding with a noise, compared to which, all the artillery of man added to the loudest thunder, would be but as a whisper; whilst mountains and mountain ranges, came peering up from the interior portions of the globe,—and you may form some conception of the descent of that vast volume of water, and the terrible uprising and down sinking of different portions of the crust of the earth,—or, of what is to be understood when we speak of the Deluge!

We have not gauged those rivers, nor measured the cubical content of the ocean; therefore, the above comparison may not be in strict proportion as to the respective quantities of water. This is not necessary,—our present object being to give some idea of the *immensity of the catastrophe*, and not an exact measurement of the agents employed on that occasion.

There are those, who think “Noah should have looked out from the Ark now and then, to observe what was going on around him, so as to be able to transmit the account to us; instead of shutting him

self up, month after month, without so much as opening a window!"

Under the circumstances, we think it was proper to shut down the dead lights, (if there were any,) and to do precisely what Noah did.—No doubt he and his family were terrified into simple and implicit obedience to all that he and they were commanded to do.—“Remember Lot’s wife!” Inquisitiveness, which induces us to pry into other people’s affairs, sometimes leads into trouble; how much more then, when we attempt to scrutinize (except to vindicate or explain,) “the ways of God to man.”

The Americans are a bold, investigating people; but we know of none of them who would venture unbidden to pry into and record, for the gratification of an incredulous or gainsaying posterity; the doings of the Almighty, amid

“The wreck of matter and the crush of worlds.”

Many other animals have physical courage, as great or even greater than that of man, yet the most ferocious beasts will quail, when surrounded by phenomena such as we have described; and this may in part account for their docility on board the ark.—Again, as Noah and his family had to feed and fodder this vast number of flesh, grass, and grain-eating animals, every farmer’s boy can understand they must have had plenty to do, without spending their time in looking out of the door or the window of the ark; therefore, let no one censure Noah or his

companions for “not having the curiosity” *and temerity* “to look out and see what the Lord was doing.” Grateful for their own deliverance, where they could not unriddle, they had learned to *trust!* Besides; it would have been a painful sight to behold their friends and neighbors, some of whom were *their near relatives*, struggling against their doom, and appealing to them by name, and by every endearing consideration, calculated to move the human heart, to assist them in their great extremity ;—none but a demon would wish to look upon such a scene ! Then, there were their own property and possessions, their dwellings, lands, fields, vineyards, servants, (some of them “to the manor born ;”) their flocks and herds, and all their substance (except what they had with them, which, probably, was comparatively little,) sinking below the world of waters, to be lost to them for ever, whilst *they* were embarking on an interminable ocean, in a non-descript vessel, without sail, oar, compass, chart, rudder, cable or anchor, not knowing that they would ever find another home or country !

A thousand heart-rending scenes must have been presented, had Noah or any of his family been permitted to look out of the ark, upon the devastation and destruction then going on around them : Therefore, *it was in mercy that “the Lord shut him in!”*

How irrational and cruel must it have appeared, to those who were connected with Noah by blood, marriage, business or friendship, to see him “saving all manner of unclean beasts and creeping things,”

whilst he was "leaving his relatives and friends to perish!" many of whom could have been accommodated on board the ark, "if some of those vile beasts were thrown overboard." So that it was in *wisdom* as well as *mercy*, that he was "shut in" and not allowed to look upon or hold any communication with, a drowning world!

Moses speaks of rain, as well as of the water that was poured down from "the windows of heaven," and therefore, he could not have meant that they were one and the same thing—he evidently makes a discrimination, and considers them as two separate and distinct sources from which the water was supplied that deluged the earth.

Rain, in the present state of tranquillity, does not add to the quantity of water on the earth, because it is first taken up into the atmosphere, before it can descend again; thus there is now no increase of water in a cosmological view; but at the time of the flood, "the waters prevailed and *increased greatly* upon the earth."

We shall have occasion in a subsequent chapter, to show that there was *no rain prior to the Deluge*;—if that were the case, then the continued evaporation for more than 1600 years, less the amount nightly deposited in the shape of dew, would have saturated the atmosphere, and aided in causing the vaporic ring to descend to the earth.

The withdrawal of that ring, and adding it to the crust of the earth, accounts for the sudden change of

climate from tropical to temperate and even to frigid ; and explains how it was that elephants, overtaken in their vain attempt to flee from the Deluge, were buried in ice or snow, in Siberia, and preserved intact, even to the hide and hair, until our day ! The mountains rising to enormous heights and the corresponding valleys, being immediately filled with cold water from the regions of perpetual congelation, must necessarily have caused a sudden change in the temperature of the polar and middle latitudes.

Philosophers have advanced many speculations to account for this great alteration of climate ; one of which is “the change in the shape of the Earth’s orbit ;” 1200 years ago it was elliptical, now it is nearly circular ; in a like period, if the present order of things continue, it will become elliptical again :—then, should its perihelion happen during our winter solstice, its greater proximity to the sun, whose rays would thus fall on the Northern Hemisphere, would cause a temperate climate at the North Pole ! It may have been to this, or some similar theory, that the facetious Butler alludes, where he says :

“ The learned Scaliger complain’d,
'Gainst what Copernicus maintain’d,
That in twelve hundred years and odd,
The Sun had left its ancient road,
And nearer to the earth is come
'bove fifty thousand miles from home.”

Sir Isaac Newton was of opinion that the *planets*

are worlds, composed of materials analogous to those of this earth, and subject to similar organic laws, one of which, namely, gravitation, he demonstrated, operates *there*, as certainly as it does *here*. If this be true, it is probable the rings, which surround Saturn, are also composed of water, snow or ice, which at some future time, may descend and *deluge that planet*, as ours was deluged in the days of the patriarch Noah.*

If "the degree of heat and light from the Sun at Saturn, is 80 times less than at the earth;" then the inundation will not be of *water* but of *snow*, hail or ice; that planet having in such case already passed from the torrid to the frigid condition.

So also, if Saturn be inhabited, it must be by animals incomparably more hardy than any existing on earth.

The most sceptical geologist, who is determined not to give his assent to anything that he does not find confirmed in the rocks and crust of the earth, will nevertheless admit, that *the order of time* observed by Moses in his account of the Creation, is "the natural order," and that events succeeded each other, *in the order*, if not within the *time* there stated.

Now, according to Moses, on the first day, "God

* Since this suggestion was first published, and many years after it was written, the newspaper having the greatest circulation in Philadelphia, mentions various late discoveries in astronomy, and classes "among the most curious," "the proof that *Saturn's inner ring is being absorbed* into himself!" if this be the fact, then our prediction is about to be verified.

said, let there be light, and there *was* light."—On the morning of the second day, the land and water were not divided ; it was a confused mass—(nothing but soft mud upon the surface, enveloped in a thick dark mist, when this separation took place.) At that moment, had it been possible for a spectator to have been on what is now the earth, he could have seen nothing but one pervading, impenetrable dark cloud of muddy water ! True, "there was light," but it was sporadic, and only sufficient [in that place] to render darkness visible : it was not until after the separation of the waters, that the sun, moon and stars could have appeared to man.

Whether the light first spoken of, was the light of the heavenly bodies, refracted as before suggested, or that light which would arise from the violent concussion of the parts, as they rushed together, in obedience to the high behest, "the law of the Creator,"—(attraction)—is immaterial : light, in miniature, can be produced in the present day, by the collision of hard substances—steel and flint for instance. If two pieces of loaf sugar stricken violently together, in the dark, will emit light, how much more would the Silicious and other rocks ? There is indubitable evidence of excessive commotion at or immediately preceding the formation of granite. Even *air* when suddenly compressed, will not only yield light, but heat. See description of Plate II., in our last chapter.

It is unimportant to inquire in what way light was produced ; it is sufficient, that light could have been, nay, must have been produced by the violent and

sudden concretion or arrangement of the parts, by the evolution of gases, or as a sequence to certain electrical conditions; which light, however produced, would have been more apparent in the absence of the sun, moon and stars, than if those luminaries had been operating upon the Earth at that time.

A volume of water rapidly falling from an immense height (and by implication, *rising* at the same rate, in like quantity and to a like height elsewhere,) is capable of producing light; as was noticed when the water-spout, as it was called, descended on a mountain in Pennsylvania, tearing out a large portion of soil, and overflowing the Juniata, carrying destruction along the whole length of that beautiful valley. We have seen the same phenomenon, on a small scale, in a douche bath at a Hydropathic Institution. In the latter case, there was an increase of temperature as well as of light.

The return of the antediluvian ring to the earth, was not the only source from which the water deluged the land; for we have reason to believe, it was at that awful time that the mountains rose from the bottom of the sea, ejected by the expansive force of the internal heat; and thus "all the foundations of the great deep were broken up;" which occurrence would cause a wave to roll over the land, nearly if not quite sufficient to inundate the habitable globe.

"But the last mountain top of the antediluvian world was covered with water;—truth then being on board the floating ark, in the eight witnesses, on that ocean without shore or island! These eight human beings

were the connecting links between two worlds: and lest their narrative should be denied in the coming profane ages of philosophic scepticism, the massive floors on which the ocean rolled were torn up, and piled away on the tops of mighty mountains, in monumental strata, on whose pages are written the history of a drowned world,—a record of God's judgment *lithographed* on the primal formations of the enduring rock!"

Great concussions of the earth are generally accompanied with much rain. This is the natural consequence of a great convulsion of nature. We shall have occasion, before we close, to mention a modern instance.

As the mountains rose, other portions of the land sank; *a change of level* took place; the habitable parts were submerged and the bottom of the sea became the tops of lofty mountains; this accounts for our finding no remains of the antediluvian inhabitants, who had iron and brass foundries,—manufactories of musical instruments, and doubtless understood the art of vitrifying clay, if not of silex, both of which vitrifications are nearly indestructible by time—hence, if the part then inhabited had not been sunk, we should have found some remains of their pottery, bricks or glass. Nothing of that sort, nor of man himself, of an age coeval with the Deluge, has as yet been found.

We are aware that human bones have been found in the *Cavern of Durfort* (about three hundred feet above the level of the Mediterranean;) also, in the

Quarries of Kosritz, and in a few other places; but there are attending circumstances which render it improbable that they were antediluvian; they certainly are *not in the place* where those individuals had lived. Being in detached bones, no whole skeletons, and those only partly fossilized, they afford no reliable evidence, that they existed before the flood.

“A strange chimera of beasts and men,
Made up of pieces heterogene;
Such as in nature never met
In eodem subiecto yet.”

Cuvier says, “It is wonderful that among all these mammifera, of which, at the present day, the greater part have a congeneric species, in warm climates, there has not been found one quadrumanous animal! not a single bone, nor a single tooth of a monkey; not even a bone or tooth of an extinct species of this animal has ever been detected. Neither are there any remains of man. All the bones of the human race which have been collected, along with those which we have spoken of, have been the result of accident; and besides, their number is extremely small, which it certainly would not be, if men had been established in countries inhabited by these animals. Where then was the human race? Did the last and most perfect work of the Creator, exist nowhere? Did the animals which now accompany him on the earth, and of which there are no fossile remains to be found, surround him? Have the *lands* in which they lived together

been swallowed up, when those which they now inhabit, and of which a great inundation might have destroyed the anterior population, were left dry?"

This is the language of the great fossilist; to his interrogatories, we apprehend the new theory of the Deluge, gives a satisfactory reply.

Probably the antediluvians resided on that portion of the earth which is now covered by the Mediterranean sea, and this may account for our finding no remains of that ancient people. Lieut. W. F. Lynch, U. S. N., in his narration of the expedition to the river Jordan and the Dead Sea, made by order of the United States government, speaking of Jaffa, a city upon the *shore* of the Mediterranean, says, "Jaffa is, perhaps, the oldest city in the world; and Pliny calls it, an antediluvian one. According to tradition, here Noah built the Ark. * * * * Our host, (the American Vice Consul,) also told us of a ruin, (likewise on the border of the Mediterranean sea,) supposed to be antediluvian; and we went to see it."

This narrative mentions a curious fact, which has a bearing upon another portion of the Theory we are now explaining, but we shall merely mention it. The lamented Lieut. Dale, who sacrificed his life in the arduous undertaking, ascertained by actual measurement with the spirit level, that the depression of the surface of the Dead Sea, below that of the Mediterranean, is a little over thirteen hundred feet! and this result corresponds with the triangulation of Lieut. Symonds, R. N.

A mere change of level was, of itself, sufficient to drown the world; and if we add the return to the earth of the ring which flew off in steam, and descended in water, we have discovered ample means to produce the flood described by Moses, in a manner strictly conformable with the text of his narrative.

Although we have shown the water to have been only twenty-eight feet, and not five miles deep, yet even *that* quantity was sufficient to render a large portion of the earth uninhabitable, unless those waters could be carried away to some other place. That they have been so carried away, is plain; for they have left the land high and dry. Let us see where these waters went to.

Upon calculation, it will be found, that the hills, mountains and lands above the level of the ocean will account for a place being left in "the great deep," of sufficient capacity to hold the twenty-eight feet of water; for it never has been pretended by anybody that these mountains were *new creations*, but that they came from prior portions of the Earth. The prevailing idea at present is, that they were protruded from the bottom of the sea by the internal forces. Consequently, being only a change of level, other portions of the earth's surface must have been depressed in due proportion, and into these depressions ran the surplus water, which we now call oceans; seas are smaller bodies of water, such as were so called by Deity at the Creation.

CHAPTER III.

" Oh blindness to the future! kindly giv'n,
 That each may fill the circle mark'd by Heav'n,
 Who sees with equal eye, as God of all,
 A hero perish or a sparrow fall,
 Atoms or systems into ruin hurl'd,
 And now a bubble burst, and now a world!"

* * * * *

WHETHER the level of the Ocean is gradually subsiding, is a mooted point; but it is agreed, upon all hands, that it is not rising above its former height; how then are we to account for the displacement of the water by *millions of cubic yards of earth* deposited in the ocean, *every day*, from the estuaries of rivers, by numerous *coral islands and reefs*, which are now, and have been for ages, forming in the Ocean, and by depositions of land which, within the period of authentic history, have caused sea-ports to become inland towns?

The encroachment of the sea upon the shores, by washing away portions of the land, and in some places, demolishing cliffs,—submerging fields and even towns, without any perceptible permanent rise above the established line of high water,—is not satisfactory evidence of a rise in the surface of the ocean; for, as "water will find its level," such rise, from the mobility of the material, would be general, and

observable in all portions of the earth washed by the sea;—it shows abrasion of the land—not elevation of the water—and therefore, it only adds to the difficulty of the problem.

Has there been a corresponding diminution of water, by the crystallization of rocks, or otherwise?—has there been an elevation of the land, either by one grand effort; by a succession of mighty throes; or by more gentle elevations, such as took place in our own day, along the whole coast of Chili; when, as is well known, that vast shore of the Pacific Ocean rose eight inches at one time. Or has there been a subsidence or shrinkage (so to speak) of the parts already covered by water? Or can all these suppositions combined, account for the immense displacement of water caused by the protrusions and deposits above alluded to?

We propound these statements interrogatively, in order to call the attention of scientific individuals and associations to these interesting phenomena, which are worthy of further investigation, by such as have more leisure and ability than ourselves.*

* Since the foregoing was in type, we have seen in one of the newspapers the following article; the mission spoken of, we presume, is Dolores, near San Francisco :

"CHANGE IN THE ELEVATION OF THE SURFACE OF THE EARTH AT THE MISSION, BY VOLCANIC ACTION.—We have been favored with some observations made by Baron de Terloo, a Belgian naturalist and traveller, now residing in our city, showing that an important change has taken place in the level of the ground about the Mission. During the last twenty months the surface of the earth at the Mission has been elevated about eighteen inches, but the change was not accompanied by any perceptible quake or subterranean noise. It is well known that very remarkable changes of this kind are constantly going on in South

History tells of the deluge of Ogyges and of Deucalion's flood: the former about 1850 and the latter about 1500 years before the Christian era: one being 500, the other 800 years later than the time given by Moses as the date of Noah's flood. If these did not relate to the Noachian deluge, they must refer to smaller floods; for, no general deluge has been pretended by anybody to have taken place *since Noah's flood*. It would be more difficult to account for these partial inundations, than for the general Deluge; yet we do not deny their occurrence: for there has been a partial, yet very extensive flood on this Continent since it was raised from the Ocean, probably before it was inhabited by the red men. This flood we *can* account for. It has long been the opinion of the learned, that when the mountain ranges of North America were protruded, they formed a dam against the waters from the north which continued to flow into this dam until they overtopped the lower portions of the mountains, where they broke through and deluged all this section of the Continent; the water rushing down the depressions or gorges in the mountains, known as the "water gap,"—"wind gap,"—"Lehigh gap," &c. Probably, the Apalachian range, known in Pennsylvania by the name of "Alleghany

America. In the Straits of Magellan, the earth has been raised more than sixteen feet; the islands of Chiloe and Madre de Dios have raised ten feet; Talcahuano seventeen feet; Vina twelve feet in twelve years, and Cohija five feet in two years. The earth has likewise been perceptibly raised within a few years at Panama, Viejo and San Blas."—*Alta Californian.*

Mountains," were *first* protruded; after which, the Rocky Mountains suddenly arose, and caused a vast body of water to roll with tremendous force against the first-mentioned barrier, aiding and accelerating the catastrophe. The pressure of water being in proportion to the square of its altitude, when this pressure was partly relieved by the depression of the water to the level of the present summit of the wind gap, it ceased to flow in that direction, the other gaps being sufficient to vent the remaining water. There is abundant geological evidence of this in the vicinity of the mountains; and here, in Philadelphia, between fifty and one hundred miles south-east of the mountains, the original surface was, and is, in many places, fifteen or sixteen feet below the present surface; as has often been disclosed in digging wells; for, at that depth, we come to a meadow containing dried grass, with its roots attached and "in place;" also, roots of trees, pieces of bark, and six or eight inches of black vegetable mould! Stems of trees have been found prostrate, embedded in the earth, (never upright,) which shows that the locality had been swept with the besom of destruction before the clay and gravel were deposited.

As we do not find this under surface (if it may be so called,) in all parts of this city, it may have been, that there were more than one of these partial floods; the first of which, deposited those parts where the submerged surface is not to be found;—and thus, a part of the peninsula on which the city stands was

then an island or islands, the waters of the Schuylkill and Delaware rivers meeting a little south of Bushill, whilst a subsequent flood filled up that channel of communication between the two rivers, and connected the island or islands with the main land—thus forming the site upon which the central and southern portions of Philadelphia have been erected.

The Deluge of Ogyges destroyed the province of Attica, more than two centuries previous to the time when Cecrops, a native of Egypt, founded Athens, 1556 years before Christ.

The successor of Cecrops was Cranaus. In his time, happened Deucalion's flood, in Thessaly. These two inundations may be accounted for, by supposing the Earth to have been surrounded by additional smaller rings or belts, as is the case with the planet Saturn, at the present day: after the principal ring or belt had by its greater bulk or density, first descended and caused the Noachian deluge, then these small rings, in due course of time, may also have descended to the Earth, and caused the smaller floods just alluded to; as we have no decided proof of this, we do not assert it to have been so, but merely throw out the suggestion for future investigators to consider and decide.

“The fact of a universal cataclysm is not only shown by the appearance of the earth, but by civil history, by tradition, and by the condition and number of its inhabitants.

“The paucity of mankind, the vast tracts of unin-

habited land which are mentioned in the history of the primitive ages, show that the human race at present on the earth, are but of recent origin, and that they sprung from a small stock ; the great number of petty kingdoms and states, in the first ages, concur to the same purpose."

Sceptics place themselves in a dilemma. If there had been *no* general Deluge, mankind at present would be *too numerous for the earth*, even in the short time the world has existed according to the Scriptural account ;—if, "instead of days, we are to understand thousands of years," it requires no appeal to arithmetic, to see plainly, that every part of the habitable globe would have been *overstocked with people* long ago : so that, either there must have been a general deluge, or the world is not as old as Moses says it is. Nobody pretends that it is *younger* ; therefore, there must have been a general destruction of our race at some time since the Creation.

"The world before the flood" was principally seas and swamps, suitable for the habitation of reptiles, monsters of the deep, amphibious, Saurian, and other animals of low organization, only a small portion was fit for the residence of man ; and accordingly we find that only a small number occupied it. The Deluge, prepared the earth for its present inhabitants ;—before the flood, it was sufficient for all that were then upon it, but could not have accommodated the tenth part of the present numbers : hence, the *physical necessity* for the Deluge.

"And God saw that the wickedness of man was great in the earth, and that every imagination of the thoughts of his heart was only evil continually."

Consequently, had these been permitted to exist, they would have contaminated succeeding generations: hence, the *moral necessity* for the Deluge.

If the antediluvians were not numerous nations, but only one large family, the descendants from one man and one woman, then there are abundant physiological reasons for their destruction.

From the earliest period, all terrestrial things have been subjected to change:—the solid rocks have their increment and decrement; the great globe itself is not exempt; thus far the type of animal life has been ascending; whether it has found its culminating point, and will, ere long, commence its retrogression, or whether a race of animals as much superior to man as man is to a monkey, will appear upon this earth—none can tell; although reasoning by analogy, it is more than probable. If it be otherwise, then have we seen "the beginning of the end;" and retrocession or destruction must follow. It is a law of nature that, after individuals arrive at perfection, that is, at maturity, and have performed the part intended by the Creator, they decay and perish! Inception, growth, maturity, decay, and eventually decomposition, or destruction, is the order prescribed for classes, genera, species, races and families, as well as for individuals: the larger the class or division, the slower the process, or rather, the wider apart the epochs that

show the change; nor is there anything in this, more strange or wonderful than we witness in other works of nature; it is the course which wise and prudent persons pursue; if they make an implement, after it has performed its office, done all that it is capable of doing, all that they wished or expected of it, they alter or destroy it, or leave it to decay.

Many species and families have disappeared from this earth, some of them, without leaving any cognate representative behind them! but such is the wisdom, power and benevolence of the Creator, that where a terrestrial class or species is removed, one of higher organization, of superior type, generally supplies its place—so that the world is not a loser, but a gainer by the operation.

What right have we to suppose that the order of nature is to be reversed or suspended for the accommodation of poor, weak, vain man? *Progression* appears to be one of the *fundamental laws of the Deity!* To stand still, or to continue the same rotation for ever, seems to be no part of His plan: at least we have not been able to detect any indication of it in His former works. Motion and change are a part of His economy; nothing, that we know of, is immutable but Himself.

Some suppose that the superior beings which are hereafter to appear on earth, will be produced by an improvement of a portion of our race; they assert (and with reason,) that already,

“Man differs more from man, than man from beast.”

If this be true, it would not require a greater change than has heretofore taken place, to engraft upon the genus homo, a species as much above the present race of man, as man is now above an ourang outang !

The original inhabitants of Greece were extremely rude and savage,—scarcely one degree superior to some brutes. They lived on herbs and roots, and either lay in the open fields, or, at best, sheltered themselves in dens, clefts of the rocks, and hollow trees: the ancient Britons were not much better, if we are to believe the testimony of one of their descendants,—

“ Time was, when clothing sumptuous or for use,
Save their own painted skins, our sires had none.
The hardy chief, upon the rugged rock
Washed by the sea, or on the gravelly bank
Thrown up by wintry torrents roaring loud,—
Fearless of wrong, reposed his weary strength.”

Compare these earlier people with some of the present inhabitants of Europe, or the United States of America, and we will find a greater discrepancy than there is between those Greeks or Britons and some beasts of the present day ! As respects *intelligence, forethought, affection, and habits*, there will not be found a greater difference between inferior men and superior brutes, than there is between the above mentioned races. The American Indians, called root-diggers, for instance, are almost as deficient as those Greeks and Britons,—perhaps more so.

One thing we *do know*; that *a great change is about*

to take place. The human race cannot continue much longer, to increase at the present known ratio; for, at that rate, the State of Pennsylvania, in 100 years, will contain as many inhabitants as the United States do now; say twenty-three millions. In about 150 years, the United States will contain as many as the present population of the whole earth, (1000 millions,) and then, the total number of inhabitants on this globe will be thirty-two billions, or in other words thirty-two thousand millions; being one human being for every acre of land on the globe; good, bad, and indifferent! In about 500 years, there will be four thousand persons for every acre, (little more than 3 feet square for each person;) and in 600 years, (being less than one-third the period that has elapsed since the death of Jesus Christ,) there will be as many persons as can stand upon the ground!—so that a change *must* take place, either in the procreative power of man, in the duration of human life, in the quantity of land surface, or in some other way.

There are those who believe that the earth increases in size by additional growths, like the coats of an onion, and many plausible facts are cited to sustain that opinion; but where would the materials come from, to form those coats? Such additions would alter the bulk, if not increase the weight, of the globe and destroy the equilibrium that now exists;—destruction and chaos would follow; be that as it may, it is impossible that things can continue to go on as at present!—But before the change takes place, the inferior and less useful

animals will be exterminated!—one race after another will become extinct, to make room for man!—the earth will be cultivated with the spade, or other garden culture, whilst nearly all animal power (human excepted,) will be superseded by inanimate agents, that destroy nothing which man can eat; all means of sustenance will be called into requisition. The capability to sustain human life will be taxed to the utmost. Pennsylvania can maintain more under the surface, than she now does on the surface. The waters, rivers, bays, and inland seas of the United States, can support more than twice our present population! Improvements in agricultural chemistry are already increasing the crops *two fold*; a thousand new modes will be adopted to postpone the catastrophe for a time, but they cannot prevent it; the change must come! But what that change will be,

“Who knows but He whose hands the lightning forms,
Who heaves old ocean, and who wings the storms?”

Nevertheless, no one need be alarmed. We have had ample evidence that the Creator is benevolent, omniscient and omnipotent;—who sees the end from the beginning; who never did, and never will, make any *mistake* or *miscalculation*, and therefore, no doubt, has provided a way to meet the contingency which evidently is about to happen! The child is now born, whose grand children may witness this change. It was about 2000 years from the Creation to the Deluge; about 2000 years from the Deluge to the coming of

our Saviour; and in about 2000 years from the time of our Saviour, say 150 years hence, the earth will be full of people! 150 years is not a long period in the age of a nation; therefore legislators, the powers that now be, should so legislate as to prepare for a state of things unprecedented in the annals of our race.

CHAPTER IV.

"He, who through vast immensity can pierce,
 See worlds on worlds compose one universe,
 Observe how system into system runs,
 What other planets circle other suns,
 What varied being peoples every star—
 May tell why heav'n has made us as we are."

* * * *

"In the beginning God created the Heaven and the Earth. And the Earth was without form and void ; and darkness was upon the face of the deep."

"There is no *effect* without a *cause*." Every material substance, known to us, must have had a beginning ; at which time and place, there was a power adequate to its formation : that power, (called by many different names,) was God ! We reverently make this acknowledgment at this stage of our enquiry, in order that no one may for a moment suppose we are attempting to account for "the origin of things" in any other way. It is "the fool," and the fool only, who "hath said in his heart, verily there is no God." But inasmuch as we do know, that the Creator uses means to accomplish ends, we consider it no sacrilege to endeavor to discover what means were used in the Creation of this world.

We will therefore boldly investigate the truth, and shall not fear to follow, wherever that leads, let the consequences be what they may.

Some philosophers, not satisfied to commence at the "beginning," undertake to "go back a little farther," and say how matters stood *before* "God created the Heaven and the Earth," and assert that, prior to that creation, "the space now occupied by our solar system was filled with a fiery haze,"—probably forming some great ante-mundane comet! As this cooled and consolidated, the outer crust peeled off, and by the law of attraction was "rolled together as a scroll" into a separate mass, and formed the planet Herschel: so with Jupiter, the Earth, and all the other planets, down to Mercury: (perhaps the "Chrystallic force" may account, in part, for this concretion or consolidation.) That another planet will in like manner be formed, still nearer to the sun, and another, and another, until the sun itself will be so reduced in size as to appear to us only as a star of the first magnitude! But inasmuch as it is approaching "the milky way," the stars which form that celestial pathway of the Deity, (that highway in the heavens, along which the Almighty, in majesty, power and glory, moves among his works,) will appear to us to increase in brilliancy, owing to greater proximity, until their united light will equal our present daylight, and will thus usher in the coming of "the perfect day."

If this theory be true, then after the Earth was thus formed, and before the formation of the planet Venus, the sun being immensely larger than at present, (occupying the whole orbit of Venus,) and consequently, much nearer the Earth than it is now, the climate of

the Earth at that time must have been far more torrid than at present.

Why should not the sun decrease and finally pass away, leaving the stars remaining, which are known to us as a part of the solar system ? We find a parallel in the animal and vegetable kingdoms ;

“ All forms that perish, other forms supply,
 (By turns we catch the vital breath, and die)
 Like bubbles on the sea of matter borne,
 They rise, they break, and to that sea return.”

If man, the most perfect of all Created beings that we have seen, is subject to this general law, why may not the inanimate world, yea the sun itself, be subject to a somewhat analogous “ general law.”

Others suppose the Earth to have been thrown off from the sun, like a spark from a cutler’s grindstone, and that the rotary motion of the sun, communicated the rotary motion to the earth ; which rotary motion was continued by the operation of two forces, one of which is called centripetal force, or the attraction of gravitation, the other centrifugal or projectile force, or repulsion ; so that these planets

“ Whether by attraction drawn, or by repulsion driven,
 Or both combined as one, perform the will of heaven.”

Centrifugal or projectile force, repulsion, propulsion or expulsion, seem to be unnecessary ; for it has been observed, that the Almighty never uses *two* means to produce an end when *one* will answer ! nay, more generally, he produces many results from a single cause :

"In human works, though labor'd on with pain,
 A thousand movements scarce one purpose gain;
 In God's one single can its end produce,
 Yet serves to second too some other use."

Matter is inert; that is to say, passive, as to motion: it has no greater tendency or "inclination," (independent of gravitation and friction) to *rest*, than to *motion*.

May not "repulsion" be the counter attraction, (so to speak,) which each body has towards itself in proportion to its bulk and density?

It is well known that the attraction of gravitation increases as we approach the Earth's surface, (in inverse proportion to the square of the distance,) and some persons suppose, that gravity continues to increase at the same rate as we descend below the surface; but that is not so: for there the ratio is reversed, and gravitation begins to decrease in proportion to the amount of matter that has been passed, until at the centre, the power of attraction is nothing; because the attraction of the part then passed, is as great as that of the opposite part which has not been reached, consequently, it is equal both ways; hence we can understand how the central portion of the earth may be a molten mass of excessively heated fluid, or even of gas, without danger to the inhabitants of the surface; we must not confound the absolute weight of the whole globe, with the known weight of materials at the surface.

If matter continued to increase in weight below, as it does above the surface, then the water at the bottom

of the ocean must be nearly, if not quite solidified by the enormous pressure of the superincumbent weight. We have heard it asserted, that were it possible to cut out a cubic foot of that water, and bring it to the surface in its condensed state, it would be so solid that we could not drive a nail into it, any more than we can into a cubical block of granite or of glass; but for the reasons above assigned, we think that such would not be the case.

It has long been the opinion of philosophers, that the exterior portion of the earth is comparatively only a thin crust. The theory of attraction, as above stated, furnishes one argument in explanation of the fact, that this crust does not fall into the central fire or internal cavity, and would not do so, were it possible for man to bore a hole into the molten mass, and use the heat for economical or manufacturing purposes. This is an evidence of the Wisdom, as well as of the power of the Creator.

So long as the relative power of attraction of the Sun and Earth continue as at present, the Moon must revolve round the earth in its present orbit; nor will its position be changed should other planets be formed out of the sun by concretion and contraction, and that luminary diminished in size; for the sum of the joint attraction of these new planets with the remaining portion of the sun, will collectively possess as much attractive power as the sun itself does now.

If the new planets hereafter to be formed out of what is now the sun, are to be "thrown off" or ex-

pelled from the sun, then the first new planet would be ejected beyond the surface of the sun, in which case that new planet might be brought nearer to the earth and the moon; and as attraction or gravitation increases inversely as the square of the distance, &c., although the sum total of the attraction might not be absolutely increased, yet the alteration of distance, of cubical content, or of density, might increase or diminish (according to circumstances,) the attraction towards the earth and its satellite, and thus unhinge the universe; for such would be the result sooner or later, of a disturbance of the balance of attraction now existing. This doctrine of expulsion destroys the sidereal "balance of power," and the beautiful harmony of creation, as it would appear to exist, if concretion or attraction were the simple and effectual mode of formation. These considerations operate against the doctrine of the "ejection" of planets, because it would then appear that the Creator's works must end in confusion and destruction, before having fulfilled the object of their creation; which would imply a want of prescience and also of omnipotence. We will show in our last chapter, when we come to describe and explain Plate III., that had the planets been formed by expulsion, it is probable the sun would have exploded or burst all at once, into angular, irregular pieces, like some of the asteroids, and would thus have been obliterated for ever.

Likewise, with the annular motion of the Earth; the Sun attracts it in one direction, whilst the sum of

the joint attraction of all the other suns and planetary systems, attracts it in the opposite direction and keeps it in its place, so that neither the moon nor the earth or any other planet or satellite, not even the Sun itself, can leave its respective orbit.

There are philosophers who suppose that our Sun, with all his planets and their satellites, revolves around another and a greater Sun (which for perspicuity we call Sun No. 2,) and that this greater Sun, with our Sun for one of his planets, and the Earth, &c., as satellites, revolves around a still greater Sun, (which we call Sun No. 3,) and that this Sun No. 3, with No. 2, as one of his planets with our sun and planets for satellites, revolves around a still greater Sun, (which we call Sun No. 4,) and so on *ad infinitum*.

This is a grand idea, which few minds can truly, candidly and *comprehendingly* entertain; as far as above described: for to do this understandingly, they must take into view, at *one and the same time*, all the complicated motions and extreme and unequal velocities, of all and every one of the suns, worlds and satellites, above alluded to! If the brain do not whirl and stagger under the contemplation of these numerous rapid motions, let any who are able, try how much farther they can go? If they be truthful, they will soon acknowledge, that the brain begins to reel or memory to betray.

Beautiful as the preceding suppositions appear, there are serious objections to them. The Sun No. 2, must be immensely larger than our Sun:—No. 3, than

No. 2; No. 4, than No. 3; and so on, beyond any thing of which we can rationally form a conception. If this were so, should we not *see* these immense suns, and be able to note their evolutions around one another? True, we have reason to believe that some of the fixed stars are larger than our sun, but we have no evidence that there are other suns immensely larger than those.

A principle is not to be depended upon that will not bear to be carried out to its ultimate results. We therefore abandon this beautiful theory of our sun revolving around another and a greater sun, as above described; because, upon this hypothesis, the suns increasing in size in proportion to the sum of the cubes of their diameters and of the diameters of their circumambient planets and satellites, one would become so great that, like Aaron's rod, it would swallow up all the rest; or in other words, would become so large as to contain or absorb all the smaller suns, planets and satellites, which is altogether improbable, if not physically impossible; and because it is not necessary that there should be a central nucleus or solid body around which our sun revolves. We know there are many stars, believed to be suns, that revolve around open centres!—this is the case with numerous double stars, as they are called.

Thus it appears, this single, simple principle of attraction is sufficient to hold the universe together, keeping every orb within its proper sphere or orbit; and if attraction alone is sufficient to produce this,

where is the necessity or propriety of attempting to discover some additional, unnecessary, and more complicated power?

It is evident from what has been said already and from observations connected therewith, (which for the sake of brevity have herein been omitted, but which will readily occur to every reflecting mathematical mind,) that the production of this earth and all other worlds (and all that are therein,) must have resulted from a few simple natural laws, established by the Creator “in the beginning.”*

Should any honest mind have any difficulty as to “a Great First Cause,” let him take any object in nature and trace it to its origin: a very short process of ratiocination will bring him to the Creator. For example, an oak tree: there it is, see it, feel it, or apply any other rational test, until you have no doubt of its being there, then ask yourself where did it come from? from an acorn:—where did that come from? a previous oak, which also came from an acorn; where did the first acorn come from?

* There may be those who will charge us with having selected the weakest, instead of the strongest objections of Free thinkers.

Strange as it may seem to them, we believe that those positions which they deem impregnable, such as the denial of “final causes,” (deduced from the alleged “indestructibility of matter,) are among those which are most easily refuted; it is surprising that men who have devoted much time to scientific investigations, should have stumbled at such trifling difficulties.

But as disquisitions of that kind would partake more of a theological, than of a scientific character, and require great amplification, we shall not detain the reader with lengthy observations thereon.

According to the new theory we should say the first oak was the result of a certain law or order, that certain salts, under certain circumstances of heat, air, earth, moisture, electricity, &c., should produce an oak, as will be more fully explained, in a subsequent chapter. From whence proceeded that order? who made that law?

There must have been a power capable of ordaining such a law, and putting it into execution,—that power, is the “Great First Cause,—the Creator—God!

CHAPTER V.

“Converse and love, mankind might strongly draw,
When love was liberty, and nature law.”

“The same which in a sire the sons obey’d,
A prince the father of a people made.”

“Till then, by nature crowned, each patriarch sate,
King, priest, and parent of his growing State;”

“Then looking up from sire to sire, explored
One great first Father, and that first ador’d.
Or, plain tradition that this all begun,
Convey’d unbroken faith from sire to son.”

* * * * *

ABOUT four thousand years ago, all the inhabitants of this earth were destroyed by water, except eight souls; namely, Noah and his family. Since that time they have increased to one thousand millions; according to which, the population must have doubled in number, every one hundred and forty-two and a half years; (say every one hundred and forty-three years for round numbers,) and this increase has taken place, notwithstanding *war, pestilence* and *famine!* War has destroyed millions. History is full of the records of battles, with which we are so familiar, that they need not be particularized. It is to be hoped, that the time will come when historians may find something more valuable to record, than wholesale murder,

and will no longer look upon the destruction of our kind as the glory of a Hero.*

With the accounts of famines we are also familiar ; as well those caused by the wrath of man, when mothers have eaten their own infants, as those impiously attributed to the Almighty, called by many devout persons, " visitations of Providence ;" in applying which term, they make a demon of the Deity ! which is blasphemy !

Famine and pestilence are no more the act of God, than war ; all of them are the result of the errors of mankind, in not following the moral, social or physical laws established by the Creator : all could have been prevented if mankind had been wise and obedient ; is to the ignorance, folly or wickedness of man, that we should ascribe these fearful calamities.

Devastation by pestilence, seems to have made the smallest impression upon our recollection, owing, probably, to our viewing it, as a special "act of Providence ;" (natural death also, is frequently so considered;) it may therefore be proper to refer to a few remarkable epidemics that have occurred within the period of authentic history, in order to show, that notwithstanding all these great drawbacks, the people

* " War is the inexorable foe of all progress, intellectual, social, and spiritual. The man who can slay his brother, or who encourages another to slay him, renounces his god-like character, and returns to the community of the hyæna and the tiger. Civilization stands still when armies take the field. It retrogrades when they leave it. Humanity shrieks at the trumpet-note of battle ; and religion stoops abashed, in presence of the warrior with red hands, and the sovereign with a bloody heart."—(*North British Review, May, 1854.*)

have increased to their present number ; and as we, of "this enlightened age," think we know better than our predecessors, how to maintain or restore health, we need not, in our calculations of future increase, make great allowance for famines, should any hereafter occur, prior to that period which seems to be approaching, when the demand for food will exceed the possibility of adequate supply.

"The first pestilence of which we have a detailed account is that recorded by Thucydides, which visited Athens about four hundred and thirty years before the Christian era. It appears to have been identical in kind with the great plague of London in 1665 ; the accounts written of the one applying almost exactly to the other. The mortality which attended it seems almost incredible. It was followed, at uneven periods, by other visitations of pestilence, which swept off millions of the human race, at Rome, Egypt, Syria, and finally Constantinople. The great Plague in London cut off 68,596 people, before its ravages were stayed by the great fire in 1666, by which the Cathedral, and many other churches, with 13,200 houses were destroyed ! Gibbon relates that, in the reign of Justinian, A. D. 527, a plague devastated the empire for fifty-two years. During a portion of this time, when Constantinople was visited by the epidemic, ten thousand persons died daily. Two centuries later, two hundred thousand persons were carried off, in that capital, by another visitation of the plague. In the earlier visitation, many smaller cities were depopulated

by it. Whole districts, devoted to agriculture, were abandoned, the harvest being left to wither on the ground. Gibbon computes the entire mortality, during the fifty-two years of plague, at one hundred millions.

“During the middle ages, the plague swept over Europe, several times, with frightful violence. Boccaccio has left a vivid narrative of its appearance at Florence, about the middle of the fourteenth century. It bore the name of the ‘Black Death,’ and closely resembled the old plague of Athens. Visiting England, it swept off fifty thousand inhabitants of London alone, though the British capital had not, at that time, probably more than two hundred thousand inhabitants,” (one-fourth of the entire population.) “Fifty years later, the plague appeared again in London, when thirty thousand persons perished of it within a twelve-month. In 1517, an epidemic called the “Sweating Sickness,” broke out in Europe, and extending to England, deprived the principal towns, according to Stowe, of *half of their inhabitants*. In 1603, nearly forty thousand persons died of plague in London. About the same period, Constantinople is said to have lost two hundred thousands of its inhabitants by the same disease. As the age of official statistics had not yet arisen, these numbers may have been occasionally exaggerated; but the very vastness of the estimates, even if only approximations, proves the frightful rate of mortality.” Notwithstanding this appalling destruction, London revived, and is now far larger than ever, and mankind have increased to one thousand millions.

At present the increase is much faster than the rate we have named. In the United States of America, it doubles about every thirty years, which is nearly the rate at which the Jews increased during their sojourn in Egypt, and is more than four times as rapid as the previous general average : the farther we look back, the more slowly the people increased ; hence, before the flood we should not estimate the period required for the duplication of numbers at less than 150 years ; but for greater safety, take the rate at which they have increased since the flood, and we shall find, that at the *time of the general deluge, there were* only about ten or fifteen thousand inhabitants ! all told ! or, if we say one hundred years (which is nearly forty-two per cent. per term faster than it increased from the flood to the present day,) it will not amount to eight hundred and seventy-five thousand ; not half as many as are now in Pennsylvania,—and about double the present population of the city and county of Philadelphia :—or even if it had been possible, that under all disadvantages, the duplication could have taken place in seventy-five years, which is nearly twice as fast as the inhabitants of the whole earth have increased since the flood, still, in eighteen hundred or two thousand years, they would only amount to about the present number of inhabitants in Great Britain. The ground covered by the Mediterranean, is eight times the size of Great Britain ; so that, under any view of the case, it was quite large enough to accommodate all those who were living at that time.

Submarine explorations, various nautical experiments and frequent soundings, have demonstrated, that for a vast depth below the present surface of the Ocean, the bottom consists of hills and valleys, mountains and plains, very much like the face of the land above water : this and other considerations lead us to believe, that prior to the Deluge, that portion now covered by the Mediterranean sea was a broad rolling upland, with a wide navigable river, or narrow shallow sea, running along the centre.

Noah resided near Jaffa, ("the oldest city in the world.") It appears he knew how to raise grapes and make *wine*; the latter always has been a merchantable article among frail men. When he went to the coast of this antediluvian sea (which was not far from Jaffa,) to dispose of the surplus products of his land or flocks, he there saw ships afloat; and there he found ship-yards, and saw how shipwrights put their boats together.

Although the ark was the largest, it was not the first vessel that ever floated : this is evident from the directions he received ; otherwise, not only *dimensions*, but *shape* and *construction*, would have been described to him. The whole tenor of the orders given, show that Noah was familiar with the art and mystery of ship building.

It may be thought, if others had ships, some besides Noah and his family, would have saved themselves by taking refuge therein. They could not have done so ; for the following reasons :—they did not believe the

flood was coming. Why should they? inasmuch as they did not understand, much less believe, that "the windows of heaven" were to be opened, or the bottom of the great deep broken up! How could they, unless some one taught them? Who was to do this? Noah himself, does not appear to have been initiated into the *modus operandi*, further than that God told him he would "bring a flood of waters upon the Earth,"—but how, or from whence, he was not informed. If we, who have heard and read thereof, and can at all times see *the results*, imprinted upon the crust of the Earth, are still sceptical, it is not surprising that the people of those days, who had never seen, *heard* or read of such a thing, should also be sceptical, and consider the aged prophet as "demented," or "*quite in his dotage.*"

The vessels of that day being intended for limited traffic on a small and tranquil sea, were no doubt, diminutive and unable to withstand the commotion of the waters. It is uncertain whether one of our largest seventy-four gun ships, could have survived such elemental strife! We appeal to every nautical commander, whether he would be willing to risk his ship in such a storm, followed by such a tornado; which together formed one continued tempest or hurricane for more than ten months; with unknown rocks, shoals and islands, continually rising from the bottom of the sea! Neither is it probable, that any of those antediluvians had twelve months' provisions, fuel and cloth-

ing on board their little vessels, all of which, probably, foundered during the first forty days.

No human wisdom could have anticipated such a catastrophe; nothing short of Divine prescience could foretel what was about to happen, nor what sized vessel would be necessary for such an emergency.

It has been asserted, that “the *preserving* of eight persons for seed wherewith to replenish the Earth, is evidence of a diminution of power, otherwise the *whole* would have been destroyed, and the work of Creation begun *de novo!*”

This insulting, not to say blasphemous and contemptuous expression, is as devoid of sound philosophy, as it is of morality. The objector forgetting that, at the Creation, circumstances were very different from what they were at the Deluge; the former, producing spontaneously, animal and vegetable life in abundance, which could not have been the case, to the same extent, at the latter epoch.

It has been asked,—“if it required five months for the water to descend, how could it have been carried up in one day?

There is no difficulty in that; for the water all descended *at one place*, attracted to a particular spot, by the first upheaval of the crust of the Earth, or other local circumstance; whereas, the ascension took place *from the whole circumference*, which at the lowest computation, would be one hundred thousand times greater in the ascension than in the descent: for example, suppose the body of falling water to have been half a

mile, or a mile in diameter, and that the evaporation was only from a belt five miles wide, then, as the Earth is about 24,000 miles in circumference, it would give an area of 120,000 miles from which the steam ascended ; but as it is probable it arose more or less from all parts of the surface of the heated globe, we can understand how as much vapor could be carried up in a few hours, as would require five months to return in a single column.

According to the Espyan theory, there are upward columns in the atmosphere at this time, which cause our great storms ; so, at the Deluge, this upward column of steam, might have been one cause of the greatest rain that has ever occurred.

The dew-point, so ably experimented upon by Dr. Dalton and Gay Lusac, was then far above the atmosphere, and even above the firmament spoken of by Moses, and could not have arrested the heated vapor in its upward career.

As the waters of the flood were only twenty-eight feet deep, it may be supposed, that many of the trees would not have been covered, and that there the birds of the air, and mariners, might have resorted and sustained themselves upon fish and such vegetables and animals as floated past them. This could not have been ; for, it was not merely a great rain and a tremendous cataract of water, but a change of level also, that caused the flood—the habitable portion sank, and that which had previously been submerged then arose. So the trees and all who took shelter on them

went down, "to be seen of men no more." Or had any solitary spots escaped so far, as to leave the tops of some of the trees above the water, the violence of the wind and waves would have caused them to sway to and fro, until they were broken off and destroyed: —there was no shelter there! independent of all these considerations, the great length of time that "the waters prevailed over the Earth," was sufficient to prevent such a lodgment.

We have seen that other portions of land not very far distant from the Mediterranean are, at this day, 1300 feet below the surface of that sea; consequently, it need not have required much sinking of part of the Earth's surface to account for present appearances, especially if the other portions rose in proportion.

The probability is that *our first estimate as to population is nearly right*; if so, there were within what is now the Mediterranean Sea, at least sixty-five square miles of arable land for every inhabitant, man, woman and child! Far more than sufficient for their support and accommodation, whether their habits were mechanical, commercial, agricultural, pastoral, predatory or nomadic.

From what is known of the number of inhabitants now upon this globe, with their present rate of increase, the Biblical history must be nearly correct; for, by reversing the operation, that is, deducting one-half every one hundred and forty-two and a half years, it will bring us down to the eight persons (Noah's

family,) in about four thousand years. We know they are increasing much faster at present, than they then did, but the circumstances by which they were formerly surrounded, would explain how they were prevented from increasing so rapidly at first. Had they multiplied as fast from the commencement as at the present time, it would bring the Deluge within the period of authentic profane history; which is proof that the Deluge could not have occurred at a period much short of four thousand years ago; and that formerly the ratio of increase was less than it is at this day.

We have already shown that the flood could not have been much farther back than that, or else we should now be overstocked with people; so that the *Mosaical Chronology cannot be very wide of the mark.* The disintegration and decay of rocks, forming the soil of the Earth, the abrasion by water, &c., all indicate a period not very distant from that derived from the books of Moses.

Admitting, therefore, that the Scripture Chronology is nearly right, we find it was less than two thousand years from the Creation to the Deluge, in which case, as we have already shown, the inhabitants could not have been very numerous.

In order to ascertain more clearly whether the antediluvians, spoken of by Moses, were *numerous nations*, or only *one large family*, let us see who some of them were,—when they lived, and when they died. This will lower our ideas of their “vast numbers.”

There were living *at one and the same time* [anno mundi 929,] the following persons, namely :—Adam, Seth, Enos, Cainan, Mahalaleel, Jared, Enoch, Methuselah, and Lamech (the father of Noah :) so Adam saw his direct descendants to the eighth generation inclusive !

Noah's father was sixty-one years old when Adam died, and therefore might have learned the story of the Creation from our first progenitor, who had talked with the Creator himself.

When Noah was born, the following patriarchal characters were living, to wit :—Enos, the grandson of Adam ; Cainan, the great grandson,—Mahalaleel, the great-great grandson,—Jared, the great-great grandfather of Noah, and the fifth descendant in a direct line from Adam, (Enoch the great grandfather of Noah having been previously translated,) Methuselah, the grandfather of Noah,—and Lamech, Noah's father: these six individuals were all living in the time of Adam ! The youngest of them Lamech, (Noah's father,) being what at this day would be called “an old man” when Adam died.

As the intensely interesting account of the Creation must have been current among intelligent persons of that day, no doubt all of these patriarchs heard it from their common ancestor Adam, and communicated the same to their descendant Noah, who was 89 years old when Enos died, 184 when Cainan died, 234 when Mahalaleel died, 366 when Jared died, 595 when his father Lamech died, and 599 years old when

his grandfather Methusaleh, died. Noah lived after the Flood 350 years; and until Abram was 61 years of age. Abraham lived until Isaac was 75 (Jacob then being 15) years of age: so that Abraham could have repeated to Jacob what he had received from Noah, not only what had been told Noah by those who had conversed with Adam as to the Creation, but also what Noah had himself seen as to the flood. Shem (one of the sons of Noah,) who was living and married *before* the flood, lived 502 years after the flood, and died at the age of 600 years. Jacob being then 53 years old, could have learned from him what Methusaleh, Lamech and others, who had seen Adam, had told *him* as to the Creation, and what he had himself *seen* of the flood! Jacob lived until Joseph was 54 years of age, and thus could, and no doubt did, communicate to him what he had learned from Shem, and from his grand father Abraham. Joseph lived 56 years after the death of his father, and about 279 before Moses, during which time the Israelites abode in Egypt as an organized community, whose Elders could and probably did, receive from Joseph and transmit these astonishing accounts to Moses, the great law-giver of Israel, who wrote them in a book for a perpetual remembrance.

We are aware that this sojourn has sometimes been calculated from the time Abram left Haran, or soon after (when that patriarch went down into Egypt;) this would leave only 53 years between Joseph and Moses! But on the other hand, it would allow only

204 years for the children of Israel to remain in Egypt, and in which to increase from less than one hundred to about three millions! An increase, more than twice as rapid as that of the United States at this time! We therefore take the Bible account to stand thus:—

Joseph was	17	years old when sold.
Served Potiphar	11	
" in prison	2	—
Making him	30	years of age when he stood before Pharaoh.
Add	7	years of plenty.
"	2	years thereafter the Jews entered Egypt.
Therefore	39	was Joseph's age when Jacob arrived.
Joseph lived	71	years thereafter.
	110	Joseph's age when he died.
<hr/>		
Moses was 80 years old when he spoke officially to Pharaoh.		
The Children of Israel sojourned in Egypt 430 years (Exodus xii. 40, 41.)		
Deduct	71 for Joseph, } making 151	—
	80 for Moses. }	—
Between Joseph and Moses,		279 years.
<hr/>		

It will be observed that we speak of the patriarchs in the direct line of primogeniture, but no doubt there were many other persons equally conversant with the subject, who, belonging to collateral branches, are not named (or only incidentally so,) some of whom very probably lived until the death of Ephraim and Manasseh, or even later; and it is possible, some of them until Moses fled from Egypt, and thus could have commu-

nicated the marvellous stories of the Creation and Deluge to Moses himself: but we have no evidence of that, farther than the testimony which Jacob when 130 years old, bore before Pharaoh, when he said, "few and evil have the days of the years of my life been, and have not attained unto the days of the *years of the life of my fathers*;" from which it may be inferred, that the brothers, cousins and other relations of those we have heretofore named, belonged to a long-lived race, and no doubt partook of the longevity of the original stock, and if so, that it would not be straining a point, to conclude that some who had conversed with Shem, Ham or Japhet, might have lived to converse with Moses.

We have already seen that Shem lived 502 years after the flood, and until Jacob was 53 years old: if a man, born 70 years before the death of Shem, had lived to be as old as Shem, that person would have lived until Moses was more than one hundred years old! we can thus see how it might have been *possible* for Moses to receive the account of the Creation and the Flood, without the intervention of the Elders of Israel or the Magicians of Egypt, although it is probable that he also received the information from them. For Joseph being prime minister, and upon intimate terms of social intercourse with the *Magi*, the learned men of Egypt, no doubt communicated to them the interesting account of the Creation and Deluge received by him from his father; and as Moses, by command of Pharoah's daughter, was instructed in all the

learning of the Egyptians, he might have learned the story in that way.

It is not necessary at present, to affirm or deny the divine inspiration of Moses; our object being to show, independent of all supernatural aid, that the facts relative to the Creation and Deluge as recorded by Moses were most probably true, or at least perfectly consistent with reason and known facts.

We have heard many theories and suppositions as to the Creation and Deluge, and (speaking as a philosopher, and not as a theologian,) we have never found any, differing from the Mosaic account, which appeared so reasonable and probable as that contained in the Scriptures of truth.

As a matter of curiosity, forming a contrast to the rational account contained in the Bible, we will mention a few theories of philosophers and others, respecting the formation of the Universe, or of certain parts thereof.

“It was the opinion of Zenophanes, Strabo and others, that the earth and the whole system of the Universe was the Deity himself.”

“Some philosophers inculcated the famous numerical system of the monad, diad and triad; and by means of this sacred mythological trinity, elucidated the formation of the world, and the secrets of nature. Others adhered to the mathematical system of squares and triangles; the cube, the pyramid, the sphere, &c , while some maintained the great elementary theory, which refers the construction of our globe and all it

contains, to the combinations of the four elements, air, earth, fire and water, with the assistance of a fifth, the immaterial and vivifying principle."

The comparatively modern doctrine of phlogiston has long since been abandoned; and the ancient record kept by the Brahmins, in the pages of their inspired Shastah, about the transformation of the angel, is too absurd to be quoted.

Buffon conjectures, that this earth was originally a globe of liquid fire, struck from the body of the sun, by means of a comet, as a spark is produced by the collision of flint and steel; that at first it was surrounded by gross vapors, which, cooling and condensing, in process of time, constituted, according to their densities, earth, water, and air; which gradually arranged themselves according to their respective gravities, round the burning mass that formed their centre. Excepting the supposition of the comet striking the sun, and splitting off a world, Buffon's theory approximates to the concurrent opinion of philosophers of the present day, is much nearer the truth than any of his profane competitors, and can scarcely be said to contradict the sacred writers.

"Darwin, in accounting for the origin of the world, supposes that the mass of chaos suddenly exploded, like a barrel of gunpowder, and in that act, exploded the sun, which, in its flight, by a similar convulsion exploded the earth, which in like manner exploded the moon; and thus, by a chain of explosions, the whole

solar system was produced, and set in regular motion." This notion itself was soon *exploded*.

We might add many others; and were we not fearful of wearying the reader, we would like to give a synopsis of some beautiful, although fanciful accounts, furnished by "spiritualists;" but perhaps the foregoing will be sufficient to show the discrepancies into which philosophers have fallen, when differing from the Mosaical account.

Nor is it surprising that they should fail to account for the origin, which they had not seen, when they could not agree as to the motion of the celestial bodies, which they *had seen*.

"Ptolemy, who has given his name to the earliest known system, supposed the earth to be at rest in the centre of the Universe, and all other heavenly bodies to revolve around the earth."

The Egyptians observed that Mercury and Venus were never at a great distance from the sun, and therefore supposed they moved around it, as secondary planets move round their primaries, whilst with it they were carried round the earth.

"The Babylonians, and afterwards Pythagoras, (about 500 years before the Christian era,) are said to have considered the Earth a planet, revolving round the sun, like the other planets. This knowledge of the true solar system was very soon lost, and was not revived till about the middle of the sixteenth century. Copernicus, from whom the true system is called Co-

pernican, supposed the earth to turn on its axis every day, and to revolve round the sun every year."

Near the same time, Tycho Brahe, a Danish nobleman, and an able astronomer, rejected the Copernican theory, and supposed the earth immovable in the centre of the orbits of the sun and moon, without any rotation on its axis; but made the sun the centre of the orbits of all the other planets, which therefore revolved with the sun around the earth.

Now, if philosophers could not agree as to what was continually passing before their eyes, no wonder they could not unite upon any theory of Creation; which is a subject not referable to ocular demonstration.

CHAPTER VI.

"So from the first eternal *order* ran,
 And creature link'd to creature, man to man.
 Whate'er of life all-quick'ning æther keeps,
 Or breathes thro' air, or shoots beneath the deeps,
 Or pours profuse on earth, one nature feeds
 The vital flame, and swells the genial seeds."

* * * * *

HAVING shown that the antediluvians were few, and occupied only a small space, we infer they were acquainted with but a small number of birds, beasts and creeping things. There could not have been *many* different kinds of animals (and only such as were indigenous to the soil and climate,) to answer all necessary purposes for ten or fifteen thousand people:— True, the Scripture speaks of specimens of every kind (then upon the earth,) but from what has already been stated, the number of *kinds* were not very great, and probably the individual animals of the few kinds they had, were not numerous; for it was not until after the flood, that they were given to man for food:

"On Noah, and in him on all mankind,
 The charter was conferred by which we hold
 The flesh of animals in fee, and claim,
 O'er all we feed on, power of life and death."*

* "And God blessed Noah and his sons, and said unto them, * * *
 "Every moving thing that liveth shall be meat for you; even as the green herb have I given you all things.

"But flesh with the life thereof, which is the blood thereof, shall ye not eat."
 —*Genesis*, ix. 1, 3, 4.

So when Noah saw a variety of beasts, birds and creeping things, coming on board his ark, he might have believed and honestly reported to his descendants, that he had with him all manner of beasts and creeping things; and no doubt so he had; but they were only specimens of such *as were then upon the earth*, that is, on a very small part of what is now known as the earth;—a part which, if not identical with, certainly was not larger than the Mediterranean Sea.

The ark was about 550 feet long, 91 feet 8 inches wide, and 55 feet high; containing three stories of nearly eighteen feet each. The whole superficial content of the floors of the ark, was about one hundred and fifty thousand square feet;—sufficient to hold more than seven thousand oxen standing close together, or 3750 as we often distribute them in our stables;—which, as the large animals were not of many different kinds, and of those, most were only received in pairs, was amply sufficient to hold specimens of all those then on the habitable globe; and as the stories were very high, Noah (who was a farmer,) could have no difficulty in storing the necessary provender between the cattle and the ceiling, had it been requisite so to do.

The burthen of the ark was between forty and fifty thousand tons, as we compute the tonnage of ships at the present day.

“A first rate man-of-war is between twenty-two and twenty-three hundred tons, and consequently, the ark

had a capacity of stowage equal to eighteen or twenty of the largest ships now in use; it might therefore have carried more than twenty thousand men, with provisions for six months, besides the weight of two thousand cannons, and other necessary equipments and military stores for such an armament. Can it be doubtful, therefore, whether this vessel had a sufficient capacity to contain eight persons and about 200 or 250 pairs of four-footed beasts, a number, to which, according to Buffon, all the various distinct species may be reduced, together with pairs of such fowls, reptiles and creeping things only, as cannot live under water, and provisions for all, even for a year?"

From the preceding data, we conclude that the antediluvians dwelt on the only part of the earth that was then fit for the habitation of man. Neither the Bible, nor that book to which sceptics so often refer—"the book of geology," gives any information inconsistent with this conclusion, or with the supposition that the portion not thus occupied was either a level plain, a low marsh or swamp, or shallow water.

The difficulty which remains to be considered is, that of feeding these animals after they left the ark. Terrene vegetables submerged for ten or eleven months would be nearly all destroyed: but as soon as the waters left the upland, which they did in many instances before Noah left the ark, the grass in that warm climate would spring up, and in a short time there would be pasture enough and to spare.

The flood commenced on the seventeenth day of the

second month, in the six hundredth year of Noah's life. Five months thereafter, the ark rested on Mount Ararat; at which time the rain *abated*, but did not entirely *cease*: according to the text—"the waters *assuaged*, the fountains also of the deep and the windows of heaven were *stopped*, and the rain from heaven was *restrained*" (not stopped,) that is, the rain was checked, or reduced as to time and quantity.

On the first day of the tenth month, the tops of the mountains were seen.—In about a month and a half from that time, the dove returned with an olive leaf. On the first day of the next year, "Noah removed the covering of the ark, and looked; and behold *the face of the earth was dry*;" and on the twenty-seventh day of the second month, he and all that were with him left the ark; so that, from the first of the tenth month, to the first day of the following year, (being three months,) certain portions of the earth in the vicinity of the ark, and probably elsewhere, were above water, and from that time until Noah left the ark, say one month and twenty-seven days, "the face of the ground was *dry!*" Making together a period of four months and twenty-seven days; thus, there was plenty of time for a good crop of grass and vegetables, before the "Master" of the ark landed his living cargo.

The text above quoted shows that the *rain*, the *fountains of the deep*, and the *windows of heaven*, were three distinct things, and that their product was the waters which were afterwards "*assuaged*," and which "*returned from off the earth continually*;" that is; a

part, in obedience to the law of gravitation, had rushed into the depressions of which we have heretofore spoken, and thus lessened the quantity, on what was about to become the land-surface of the globe.

For more easy reference, we have made the following

A B S T R A C T,

From the Mosaical Account.

On the 17th day of the 2d month, in the six hundredth year of Noah's life, it commenced raining; whereupon Noah with his family entered the ark. The waters prevailed upon the Earth for 150 days—say 5 months; that is, until the

17th day of the 7th month of that year; on which day the ark rested on Mount Ararat. At the same time, the fountains of the deep and the windows of heaven were "*stopped*," and the rain "*restrained*."

1st day of the 10th month of the same year, the tops of the mountains were seen.

11th day of the 11th month.—The Raven was sent out, but did not return. On the same day, Noah sent out a dove, which returned; for the waters were on the face of the whole earth, (mountains excepted;) that is, upon all that was then visible to the naked eye from that point of observation.

18th of the same month. The dove was again sent out, and returned with an olive leaf.

25th, (seven days later.) She was sent out again, and did not return. This was on the 25th of the 11th month, in the six hundredth year of Noah.

On the 1st day of the 1st month, in his six hundred and first year, "Noah removed the covering of the ark, and looked, and behold the face of the ground was dry."

27th day of the 2d month, (being 1 month 27 days thereafter,) Noah and his family, and every beast and every fowl and whatsoever creepeth, went forth out of the ark.

R E C A P I T U L A T I O N.

The waters prevailed for 5 months—

Mountain tops first seen, 2 mos. 13 days after the windows of heaven were stopped.

Say, 7 mos. 13 days,

Waters remained for 1 mo. 10 days longer.

Making 8 mo. 23 days.

Dove returned with olive leaf, 7 days.

Waters abating, 9 months,

Dove sent out again, and did not return, 7 days.

Waters abated, 9 months 7 days.

The ark uncovered, and the ground found dry, 1 month 5 days.

End of the flood, 10 mos. 12 days.

Debarkation, 1 mo. 27 days.

End of the voyage, 12 mos. 9 days.

Baron Humbold states that, after the destruction of a large portion of the inhabitants of Cumana, in South

America, by an earthquake in 1767, an extraordinary fertility ensued, in consequence of the rain which had accompanied the convulsion.

This is one of numerous cases on record where great convulsions of nature produced rain. Perhaps it may not be necessary to detain the reader with a recital of other instances.

As the great elevations were caused by land previously covered with shallow water having been protruded from the “sea” (not ocean) by the internal forces, the *marine vegetation was there*, either in a green or partially dried state, on which the herbivori could subsist until the grass grew.

We have already shown that there was a period of from three to five months allowed by the Creator, for the grass to grow, before he permitted man or beast to leave the ark: in either case there could not have been a deficiency of food. As to the carnivorous animals, it was not quite so important to them; the chief difference being, whether their victims should be in full flesh, or lean and ill-favored,—especially as they had their choice of fish or flesh, as will be shown presently.

Every chemist, every farmer, every intelligent person who has ever resided in the country, can understand, that much of this land, thus protruded from the water, must have been extremely fertile, and that all doubts on that score are futile and imaginary.

Whether Noah kept a regular record of events in the ark, we know not; if he did, it has been lost; certainly it has not been handed down to us; and there-

fore, we cannot tell all that took place on board his vessel during that cruise upon a boundless ocean,—the first and the last of the kind that ever was, or ever will be, on this earth! Sceptics avail themselves of this omission, and say, “the carnivorous animals would have eaten up all those which were graminivorous, and Noah and his family too, during the year and nine days they were in the ark;” whereas, on the contrary, Noah in obedience to the Divine command, made proper and ample provision even for them; as is sufficiently proved by the fact, that they all came out alive at the end of the voyage.

“And take unto thee of all food that is eaten, and thou shalt gather it to thee; and it shall be for food for thee, and for them.

“Thus did Noah; according to all that God commanded him, so did he.”

It is evident they must have had plenty of provisions, for they remained on board, for nearly two months after “the waters were dried up from off the Earth;” which they would not have done, had they been on short allowance.

Mankind were vegetarians before the flood; and even at the present day a majority do not make daily use of animal food:—in England and the United States the reverse is the case; but even here, already many persons, from physiological, economical, humane or religious reasons, refrain from eating flesh, and the same motives will hereafter greatly increase their numbers. The two reasons last mentioned, cannot

be maintained upon sound principles, but the others are incontrovertible and will prevail, to a great extent.

Were the supply of animal food to fail, or from any cause become scarce, it would require several years to raise a supply ; whereas, cereals and vegetables are capable of any required increase in a single season, which is an important consideration with philanthropists, statesmen and agriculturalists.

That this change of diet will have a powerful, and probably beneficial, effect upon the race, scarcely admits of doubt.

There are those who scruple the right of man to exterminate the inferior animals to make room for himself, and who favor the sentiment so beautifully expressed by Goldsmith's Hermit :

"No flocks that range the valley free,
To slaughter I condemn ;
Taught by that Power that pities me,
I learn to pity them."

Some sects in the East not only refuse to *kill* vermin, but carry their misgivings so far as even to *nourish* and *sustain them* ! None, however, need hesitate upon that point, for

"The sum is this. If man's convenience, health,
Or safety interfere, his rights and claims
Are paramount, and must extinguish theirs."

So says Cowper, than whom, no one had a stronger sympathy for the wrongs, or a greater regard for the rights of the irrational portion of Creation.

It has moreover been objected, that the carnivori, on coming out of the ark, would have eaten up and destroyed the herbivori in a few days, and then starved to death! There was no danger of *that*; for, as the waters retired, no doubt abundance of *fish* were left on the land, affording a plentiful repast; and as those fish which failed to escape into the ocean, would, as far as practicable, follow the water into the shallow ponds, which were afterwards dried by evaporation, the supply of this kind of food might have been kept up for weeks and months, and even for years; at any rate until there was a stock of land animals from natural increase; thus forming one grand universal Lent: and this may have been the reason why fishes were not included in the fiat of instantaneous destruction. It is probable there were nearly as many fish destroyed, in consequence of the Deluge, as of land animals, and therefore the charge of "injustice and partiality in favor of one class of animals," does not seem to be well sustained.

Speculative philosophers, (sometimes erroneously called infidels and atheists,) reject the Bible, because they think "it contradicts itself;"—that is, they can point to some part of that book, written by one man, which they say, "contradicts some other part," written by another man. These objections have been answered by the defenders of the Bible reminding them, that these books, written by different men, at different times and under various circumstances, after having been collated, were translated into numerous lan-

guages, that our version is a translation of a translation, and that all modern editions are copies of copies; consequently, allowance must be made for the inaccuracy of the translators and transcribers; also, for the change in the meaning of words, which occasionally takes place in all living languages; and also for the construction which may sometimes be given by the division of the Bible into chapters and verses.*

The answer is about as good as the objection—neither of them very satisfactory. If discrepancy between writers of the same faith, is fatal to the general creed, then the objectors themselves are liable to many such charges.

One sceptic finds fault because the Bible ac-

* Portions of the Bible were originally written in Chaldaic. The two principal versions are, the *Protestant*, translated from the Hebrew and Greek (by order of King James,) by 47 learned Divines in England, from 1608 to 1611, and compared with many older versions; and the *Douay* Bible, (Roman Catholic,) compiled by three or four professors of the College of *Douay* and *Rheims*, in 1582 and 1609, from the Latin translation made more than 1400 years ago, which thus is a translation of a translation.

The editions now in use, are chiefly copies taken from copies of the above-mentioned versions. It is not pretended by any body, that all who have been engaged in making these *copies*, were "inspired of the Holy Ghost;" consequently, as all human works are more or less imperfect, typographical and clerical errors may have been unintentionally admitted: whether they materially affect the meaning, theologians may decide.

Formerly, punctuation was not the province of *the author*, but of the *critic*, or *grammarians*: how this was with the Bible, we do not remember to have heard; but the division into small portions was not the work of the sacred writers. The *Chapters* were invented by *Hugo de Sancto Caro*, a Romish Cardinal, who lived in the thirteenth century. *Verses*, in the Hebrew Bible, were first divided by a Jewish Teacher, named *Athias*, in the year 1661. The New Testament was divided into verses by a Frenchman, named *Robert Stevens*, in 1545.

count looks as if the maker *had* blotted all out at the time of the Deluge, and began anew. Another, ridicules that same account, because eight persons were "preserved for seed," and that the work was *not* "begun *de novo*." Others object, because "the writers of different parts of the Bible, say the *same* things;" this, our sceptics call plagiarism. So it appears they are hard to please.

Some scientific persons have thought the world *could not* have been, or at any rate *was not* created in six days of twenty-four hours each, but that the term "*nom*" translated into our language by the word "*day*," must have meant a long indefinite period of time, say "*a thousand years or more*," and "*it required six thousand years at least to form the world!*" If we take their interpretation and read one thousand years, whenever Moses in that account says *one day*, then, it *rained forty thousand years* at the Deluge! the windows of heaven continued to pour down torrents of water upon the earth for *one hundred and fifty thousand years!!* and the world was covered by water *for more than two hundred and fifty thousand years!!!* During all which time, Noah and his family, and all animals remained alive in the ark!—Which will you believe?

"With the Lord, one day is as a thousand years, and a thousand years as one day"—

"—— in whose sight,
Slow circling ages are as transient days;"

whereas, with man "what is gained in *power* is lost in *time*," and this makes it difficult (for some) to conceive how it could be different under any circumstances.

"**S**o man, the moth, is not afraid, it seems,
To span omnipotence, and measure might
That knows no measure, by the scanty rule
And standard of his own—that *is* to-day,
And is not, ere to-morrow's sun goes down,"

CHAPTER VII.

"Look round our world—behold the chain of love
 Combining all below and all above;
 See plastic nature working to this end ;
 The single atoms each to other tend ;
 Attract, attracted to, the next in place
 Formed and impell'd its neighbor to embrace ;
 See matter, next, with various life endued,
 Press to one centre still—the general good !"

* * * * *

WE have seen how *light* might have been, and probably was created on the first day—and how the waters were separated, and the firmament established on the second day.

Vegetables were created on the third day. At the "beginning" the Creator established a *fundamental law*, unerring as those of *affinities* (definite proportions) in chemistry, and *gravitation* in philosophy, viz: that certain salts, under certain circumstances of heat, air, earth, light, moisture, electricity, &c., should produce certain kinds of plants.—Thus it is, in New Jersey sometimes, when we cut down a pine forest, oaks spring up; and after a great lapse of time, when the oaks are cut down, pines again appear! Whilst the oaks are growing, the salts suitable for the production or stimulation of pine are accumulating, and the oaks are absorbing from the soil that peculiar alkali or salt best adapted to the production of oaks; so that,

when the oaks are removed, there is a preponderance of the pine-producing acidulating salts: whereupon the pines immediately spring up and grow, to the exclusion of the oaks; and, in a similar manner, whilst the pines are growing, the ground is being prepared for the production of oaks. Some have supposed that the acorns remained buried near the surface of the ground all the time the pines were growing: but that is not likely, as they would decay, or be eaten by squirrels or other animals, long before the pines arrived at maturity. True, we have heard of the great vitality of seeds: it is said that wheat, taken from an Egyptian Mummy embalmed 2000 years ago, has been sown and found to germinate and produce fruit! but in that case, it had been excluded from the air, moisture, &c., to all of which, the acorn would be exposed, and therefore would decay.

Take a quantity of loam (composed principally of feldspar and silex,) from many feet below the surface, wash it, dry it, sift it, and then heat it to a degree sufficient to destroy vegetable life, (if any there remains,) after which, put it in a box, and place it upon the house-top, or in any other secure situation; cover it with glass, and, by fine gauze, or in some other way that shall effectually prevent seeds from being introduced; admit the air, keep it in the proper condition as to moisture, temperature, &c., and in process of time, you will find vegetation springing up in that soil. Gardeners assert that they can produce mushrooms and other fungi without seed.

In like manner, the fundamental laws of the Creator caused particles to adhere to, or combine with other like particles, and thus out of the gaseous or other matter existing in that vast portion of space known as our solar system, hardened, condensed, agglomerated or combined the materials which have successively formed the planets, including our earth;* and this process is now going on, in other portions of space. The comets are believed to be matter undergoing that formative process.

"Geology has proved," says Chambers' Miscellany, "that at one period, there existed enormously abundant land vegetation, the ruins of which, carried into seas, and there sunk to the bottom, afterwards covered over by sand and mud-beds, became the substance which we now recognize as coal.

"It may naturally excite surprise that the vegetable remains should have so completely changed their apparent character, and become black. Part of the marvel becomes clear to the simplest understanding, when we recall the familiar fact, that damp hay

* A celebrated professor of Chemistry, in a recent lecture upon "The history of Creation, as taught by modern science, compared with the Mosaic account," performed various experiments, showing how many things could have been created as described by Moses.

Assuming the gaseous origin of the earth, he produced intense light and heat by combinations of gases; also, light of equal intensity, by electricity; likewise, by admixtures of other gases, he obtained cold, sufficient to freeze quicksilver; and thus explained how the crust of the earth might have been formed by condensation, consolidation, precipitation, crystallization, &c.; in short, it was an epitome of the phenomena described by Moses, or in other words, *Creation on a small scale!*

thrown closely into a heap, gives out heat, and becomes of a dark color. When a vegetable mass is excluded from the air, and subjected to a great pressure, the result is mineral coal, which is of various character, according as the mass has been originally intermingled with sand, clay, or other earthy impurities.

"On account of the change effected by mineralization, it is difficult to detect in coal the traces of a vegetable structure; but these can be made clear to all, except in the highly bituminous coaking coal, by cutting or polishing it down into thin, transparent slices, when the microscope shows the fibres and cells plainly.

"From distant, isolated specimens, found in the sandstones amidst the coal-beds, we discover the nature of the plants of this era. They are almost all of simple cellular structure, and such as exist with us in small forms, (horse tails, club mosses and ferns,) but advanced to an enormous magnitude.—These species were long since extinct. The vegetation was generally such as now grows in clusters on tropical islands; but it must have been the result of a high temperature obtained otherwise than that of the tropical regions now, for the coal strata are found in the temperate, and even the polar regions.

"The conclusion, therefore, at which most geologists have arrived is, that the earth, *originally an incandescent or highly heated mass*, was gradually cooled down, until in the carboniferous period, it fostered a growth of terrestrial vegetation all over its surface, to which the existing jungles of the tropics are mere barrenness in comparison. This high and uniform

temperature, combined with a greater proportion of carbonic acid gas in the atmosphere, would not only sustain a gigantic and prolific vegetation, but would create denser vapors, showers and rains, and these again gigantic rivers, periodical inundations, and deltas. Thus all the conditions for extensive deposits of wood in estuaries would arise from this high temperature, and every circumstance connected with the coal measures, points to such conditions."

The "change in the apparent character" of mineralized carboniferous plants, as exhibited in anthracite or bituminous coal, is not more remarkable than that observed in the *barilla* of commerce, which is the product of a sea-weed by combustion and lixiviation. When thrown on the wharf from the ship or vessel in which it is imported, this article looks more like black stones or a mineral substance than like anything of a vegetable nature.

Now, on the third day, the earth was just in that condition of heat, moisture, &c., to germinate plants, in obedience to the law which we have endeavored to explain: it is probable the germs might have been formed in the earth before the waters were drawn off, (we see this along the shores of tide-water ponds, creeks and rivers,) and whoever has witnessed the rapid growth of vegetation in a tropical climate or even in a Russian summer, need feel at no loss to understand how soon there would be enough for the animals created three days thereafter.

From some late experiments in England, it has been found that the galvanic fluid can cause a more

rapid development of vegetable growth, than we have ever before supposed to be possible. On the third day of the creation, the earth was in a condition far different from the present, and it is not difficult to understand how a rapid growth might have taken place, such as is not seen in the present day; nevertheless, within our own time and under all disadvantages, we have occasionally seen plants grow almost as rapidly as would be necessary under the circumstances alluded to. We often hear of plants having grown at the rate of one inch in 24 hours; at which rate the grass, reeds, &c., would have been three inches high before there were any animals to graze upon them.

The solar system was created on the fourth day. As the earth had a "beginning," so had the sun, moon and stars. No doubt they were all produced, each in its proper time and place, in obedience to a general law of the Creator; for, it is as easy for Almighty power to create a world or a sun, as an orange or a pea! Magnitude, time and space, are nothing to him who is Omnipotent,—who fills immensity, and exists for all eternity.

Birds and fishes were created on the fifth day. However some investigators may sneer at the Mosaic account, still, able philosophers, occasionally (although it may be unintentionally) bear testimony to its truth.

One of the late and astonishing discoveries of modern science is, that the *birds of the air were formed originally out of the waters of the sea*. By referring to

the first chapter of Genesis, we find Moses says the same thing.

“And God said, let the waters bring forth abundantly the *moving creature that hath life, and fowls* that may fly above the earth in the open firmament of Heaven.”

“Which the waters brought forth abundantly, after his kind; and God saw that it was good!”*

Winged insects are sometimes thus *produced* at the present day. At first, they are a “creature that hath life” moving up and down in the water, but then there comes a time when they rise upon the surface and fly away. So it was on the fifth day of Creation—as swarms of insects now rise from the water, so then did whole flocks of birds arise from the sea in one and the same day.

Mosquitos, notwithstanding the anathemas usually bestowed upon them, are interesting to the naturalist; showing as they do, to incredulous man, how tenants of the air *can* be produced out of water, and enabling him to understand and believe, that “the waters

* Modern philosophers have demonstrated that the interior of the Earth is one molten mass of liquid fire, or its equivalent; they cannot exactly tell what: but they have satisfactorily proved, that whatever it is, there can be no doubt but that it is at an exceedingly high temperature, equal to, or far surpassing in its intensity, what is technically called a “white heat,” which of course, is *hotter than red hot iron!* This is a surprising and important discovery; which like other really scientific discoveries, tends to prove the truth of the Bible: for the doctrine of internal heat is distinctly, although briefly, stated in the Book of Job; the oldest book now extant: which says,

“As for the Earth, out of it cometh bread; and under it is turned up as it were fire.”—Job, xxviii. 5.

brought forth abundantly the fowls that fly above the Earth, in the open firmament of Heaven." Or, they may be the result of a remnant, a weak solution, if we may be allowed so to speak, of the vivifying principle, which, in its pristine strength, and in obedience to the law of its nature, or in other words, the law of God, brought forth the larger animals, including man.

This principle or power, which is of God, and for which, unfortunately, we have no proper name or term that will clearly designate it, has been called, electricity, galvanism, nervous power, vital energy, living principle, life, and various other significant, but not very correct terms ; and, although at this time apparently weak, it may, like the brain in sleep, be gathering power for future effort, and may yet arise, in obedience to the Divine law, "like a giant refreshed with wine," and, by another effort of uncommon energy, display to an astonished world a being superior to man !

We know not whether such was the case when "there went forth a wind from the Lord, and brought quails *from the sea*, and let them fall by the camp, as it were, a day's journey on each side of the camp," to the depth of about 43 inches, (say three and a half feet,) and sufficient in quantity to feed the nation for a "whole month;"—until they became heartily tired of that kind of diet. This fall of birds was followed by "a very great plague," the consequence (physically) of the sudden change of food, the surfeit, and the decomposition of the refuse.

If this vast number of quails did not come *out of the sea*, it is equally difficult to say where they *did come from*, in such condensed numbers, so contrary to the natural habit of those birds at the present day.

Some modern philosophers assert, that they were not quails, but Snails, (*Helix Pomacia*, called in the German language, *schnecken*,) myriads of which are said to be found in the desert at the present time—large and edible; in either case it is equally wonderful, and tends to corroborate the theory we are endeavoring to explain.

We will not produce the account of Keysler, F. R. S. of London, (a celebrated antiquary,) who alleges that this takes place periodically in a certain lake in the southeast part of Austria, because his story, by some, is supposed to be fabulous, or at least requires confirmation. But we are not left to conjecture on this mode of producing winged animals;—if two glass jars be partly filled with distilled water, and then hermetically sealed and allowed to stand in a dark place of suitable temperature, (a cellar for instance,) and if a galvanic battery be so applied that a stream of electricity or galvanism passes constantly through one of those jars, in process of time it will be found that, in the jar to which the galvanic battery was applied, living *animals* will be formed, perfect in organization and articulation, with feet, wings, bodies and other parts, as complete as those produced “in the natural way!” (although of a different species)—whilst the other jar will contain nothing but the distilled water!

The Creator does nothing in vain—makes nothing that is useless. We have seen that the antediluvian habitable portion of the earth was small, and its inhabitants and animals few. A large proportion of the animals which have been, or are now upon the earth, were not then needed, and therefore did not, nay, for obvious reasons, could not have existed in the condition of things then extant; hence *these* must have been *created since the flood?* The probabilities are in favor of the hypothesis that there are new creations at this day, and that there will be others hereafter. If this be true, then, in that sense, has the creation taken thousands of years; but this is not the sense in which it is understood by those who cavil at the Mosaical account.

As there have been floods, since the Deluge, so have there been new Creations on this earth since the six days spoken of in Genesis: yes, there have been *post-diluvian creations*, both animal and vegetable! We have already shown that forests have been thus newly created in New Jersey, alternately of oak and pine. That there have been creations of coal, subsequent to the primal creation, is evident from its vegetable origin; there having been instances where one end of a log was wood, and the other end mineral coal; which is conclusive as to origin. The obvious fact that extensive coal mines have been formed out of trees and tropical plants, which existed prior to the Deluge, does not militate against the idea of its creation or conversion subsequent to the creation spoken

of by Moses, any more than the fact of the *Fowls of the air having been formed out of the waters of the sea,* or the beasts of the earth made out of the dust. If coal was not *created*, because of its vegetable origin, then beasts and birds were not created, because of their terreneous or aqueous origin.

Beasts, cattle, creeping things, and (last though not least,) *man*, were created on the *sixth* day.

"And God said, let the *earth bring forth* the living creature after his kind, cattle and creeping things, and beasts of the earth after his kind; and it *was so*;" that is to say, the *earth* brought them forth.

We have seen how the vegetables were produced on the third day, in conformity with the fundamental law of the Creator, and how the sea brought forth the birds on the fifth day, in obedience to a similar law. Is it any more difficult to believe that the *earth* should produce beasts, than that the *water* should produce birds? No! not so much so; and yet the manner in which birds were originally produced, is no longer doubted by well informed individuals, who keep themselves posted up on all the discoveries in science ancient and modern. Many recent instances have been known of some kinds of insects being produced from dirt; at least when no other origin could be suggested.

"In the *beginning* the spirit of God moved upon the face of the waters;"—this must mean something—who knows but that it was the "quicken^g spirit" which was *then* infusing the germ of life, that was to be fully developed in the days of creation?

" See, through this air, this ocean, and this earth,
 All matter quick, and bursting into birth!
 Above, how high progressive life may go ;
 Around how wide; how deep extend below !
 Vast chain of being, which from God began,
 Nature's ethereal, human, angel, man,
 Beasts, birds, fish, insects, what no eye can see,
 No glass can reach, from infinite to thee,
 From thee to nothing"—

Admitting the organic law, that the gelatinous matter, which we often find on the sea shore, or some other material, under certain circumstances, operated upon by the galvanic fluid, &c., should produce certain kinds of animals and creeping things, and we see no difficulty in the development having taken place in one day :—for, by the operation of this law, it would be no more difficult to produce a mammoth than a mouse—a man than a monkey—a million than a single individual—in a single day, than in "a thousand years."

When we resolve men and other animals, and also plants into their ultimate constituents, we find them nearly identical; so that, possibly, the application of more or less galvanism or electricity, might have been the means used to change the type of life from vegetable to animal, or from molusca to vertebrata ! from an oyster up to man.

If this be true—if life, electricity and galvanism, be synonymous, or analogous, it has been suggested that we may therein discover a remedy for many diseases, the symptoms of which indicate great debility, general weakness, or want of vitality ; and, therefore, by

infusing into the patient a greater amount of this vivifying principle, accompanied by strict observance of a proper dietetic, calisthenic, and other hygienic practice; make restoration for the waste occasioned by some violation of the laws of life. The difficulty at present, seems to be in the fact, that the electricity is no sooner introduced, than it instantly escapes, "as quick as lightning," and that we have no reliable mode of introducing this subtle fluid into the system in regularly divided quantities, and retaining it there, just as the state of the case requires. But this being a medical question, we must avail ourselves of some other medium to communicate to the public, a mode by which we believe it might be done.

"And on the *seventh* day God *ended* his work which he *had* made; and he rested on the seventh day, from all his work which he had made."

We frequently hear this last sentence excessively ridiculed by those who think themselves "*wise above that which is written*," as though Moses had said, the Creator was *tired* after his great labor of creating a paltry world, or rather the garniture of this world; for the earth had been previously created, "*in the beginning*."

We freely admit, that compared with the rest of the Creator's works, this Earth and all that is therein, is but a small affair. Other planets are far larger, and the sun is as large (bulk and density considered,) as all of them put together; whilst there is reason to believe that some of the stars exceed our sun and all his planets with their satellites included!

The word *rest*, in that connection, conveys the idea of cessation, arising from *consummation*, not *fatigue*; as though Moses had said, the work being done, God then ceased operating, in that way, upon the Earth.

The text is often best explained by the context, in which Moses says, "on the seventh day God *ended* his work which he *had made*," leaving his laws to operate for the regulation and government of that part of Creation.

One of our own countrymen, (Noah Webster,) who understood the meaning of words as well as any of these cavillers, in his dictionary of the English language, defines *rest* to be, "*cessation of motion or action* of any kind, and applicable to any body or *being*; a state free from disturbance."

That is the *noun*. The *verb REST*, he says, is, "*to cease from action* or motion of any kind; to stop; to cease from labor, work or performance; to be undisturbed; to abide, to remain with." So that, to say God rested on the seventh day, is no more derogatory, than to say He had finished what he had purposed to do.

Resting, refraining, or abstaining for a day, is not ceasing for ever; accordingly we find He has been at work *since*, creating and destroying worlds, [as we understand the terms,] for it is well known to astronomers, that there have been stars, which are not now to be seen; they have been demolished or removed: there is no doubt but that one of them was broken or destroyed, for we have seen the pieces, called asteroids,

infusing into the patient a greater ~~and not~~ ^{ary and not} vifying principle, accompani ~~eds have been~~
of a proper dietetic, cali ~~whilst others have~~
practice; make restorati ~~It has become so~~
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a medical ~~on this Earth is in a state of mutation? It cannot be!~~
other m ~~either does their formation, or mistake in their Maker,"~~
by wh ~~"If~~
he ~~any more than does the death of animals and plants;~~
al ~~on the contrary, it is evidence of wisdom, benevolence~~
~~and power, in the Almighty. Nor does it evince~~
~~"cruelty towards his creatures."~~ Death itself is not
~~a curse, but a blessing; it is the cause or means of~~
~~more life and more animal enjoyment, ten thousand~~
~~fold, than if it had never been instituted; but we will~~
~~not detain the reader with the considerations which~~
~~lead to that conclusion.~~

In Chapter II., we have spoken of there having been no rain nor clouds previous to the Deluge: Moses expressly states this to have been the case, prior to the creation of man; "for the Lord God had not caused it to rain upon the Earth, and there was not a man to till the ground. But there went up a mist from the earth, and watered the whole face of the ground."

From that time to the Deluge, rain is not mentioned—probably there was none—for *then* the earth needed *wetting*, not *wetting*; nearly the whole surface being covered with shallow water, or with wet swampy ground. Hence the reason why the rainbow did not appear until after the Deluge.

Also, in Chapter II., we have supposed that the antediluvian mountains were only twenty-eight feet in height; but as the land sank, the mountains would also sink, below the surface of the water; the ocean in many places is more than five miles deep; so that it was capable of containing and covering the mountains, even had they been "five miles high."

CHAPTER VIII.

“ Some say that in the origin of things,
 When all creation started into birth,
 The infant elements received a law
 From which they swerve not since ;—that under force
 Of that controlling ordinance they move,
 And need not His immediate hand who first
 Prescribed their course, to regulate it now.”

“ Thus dream they, and contrive to save a God
 The encumbrance of his own concerns, and spare
 The great artificer of all that moves
 The stress of a continual act, the pain
 Of unremitting vigilance and care,
 As too laborious and severe a task.”

“ But how should matter occupy a charge,
 Dull as it is, and satisfy a law
 So vast in its demands, unless impelled
 To ceaseless service by a ceaseless force,
 And under pressure of some conscious cause ?”

The pious Cowper appears not to have been fully informed in relation to the whole doctrine of organic law, as at present understood ; nevertheless, after further reflection, he triumphantly adds :

“ The Lord of all, himself through all diffused,
 Sustains, and is the life of all that lives ;
 Nature is but a name for an effect
 Whose cause is God. He feeds the sacred fire
 By which the mighty process is maintained ;
 Who sleeps not—is not weary—whose designs
 No flaw deforms, no difficulty thwarts ;
 And whose beneficence no charge exhausts.”

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The works of *man* require extraneous momentum, or the machinery will stop. The spring, the weight, the steam, the wind, the magnet, the animal or other power, must be applied, to overcome what is called the *vis inertia*; though falsely so styled, because, to matter, motion is as natural as rest. Gravitation and friction constitute the true *vis inertia*. The mechanism of the Creator feels no such drawbacks; nay, they tend to compel the enforcement of the law.

The works of finite beings require *constant propulsion*. The Deity alone can create perpetual, ever-during motion.

We admire Franklin, Espy, Morse and Fulton, (and his friend and teacher Fitch,) but neither they, nor any other man or set of men have as yet been able to invent a machine which shall make one single revolution *by its own propelling power*. This would be perpetual motion; but the Almighty has created a system so adjusted that, whilst admitting change, naught but himself can *suspend* or even *impede* its motion or progression!

What is to be the final result of those frequent changes, it is not given to man to know.

" See dying vegetables, life sustain.
 See life dissolving, vegetate again;
 Nothing is foreign—parts relate to whole;
 One all extending, all preserving soul
 Connects each being, greatest with the least;
 Made beast in aid of man, and man of beast.
 All serv'd, all serving, nothing stands alone:
 The chain holds on, and, where it ends, unknown."

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works that are therein, shall be burned up." They suppose that then will

"The earth unbalanc'd from her orbit fly,
Planets and suns run lawless through the sky ;
The ruling angels from their spheres be hurl'd,
Being on being wreck'd, and world on world;
Heaven's whole foundations to their centre nod,
And nature tremble to the throne of God!"

As "God never meant that man should scale the heavens by strides of human wisdom," we will not attempt to pursue this portion of the subject further.

"Here then we rest;—the universal cause
Acts to one end, but acts by various laws."

There is one matter relating to the primeval condition, that we have not sufficiently alluded to :—whilst the earth was principally a morass occupied by rank vegetation and by saurian, and other gross animals,

"A creature of amphibious nature,
On land a beast, a fish in water;"

the atmosphere contained a greater proportion of carbonic acid gas, than it does at present: those animals, and the rapidly growing vegetables, attaining enormous sizes, lead us to think so. The inconceivable number of shell fish which then, or soon after appeared, aided by the rank vegetation, abstracted a large portion of this carbonic acid from the air and water, and prepared the way for the existence of a superior class of animals.

Whether man was originally as highly organized

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and stars were formed. And it must have taken *one thousand years* to separate the waters from the waters; which we have already demonstrated, was probably done *in a few hours!* Such a theory would only mystify the account, and make it more difficult to be understood.

It will not do at this late date, for those who have not a colloquial and critical knowledge of the language in which he wrote, to say, "Moses sometimes meant a day, and sometimes a thousand years," *by the same word*, in the same or a similar connection; but if the word used by Moses has such double meaning, then must the signification be determined by the rationale of the exegesis.

The Creator being "perfect in all his ways," having determined upon that which he purposed to accomplish, it is reasonable to suppose he so arranged his work, that each department should appear in its proper order, time and place. If the doctrine of organic law be correct, and we presume but few modern philosophers will dispute it, we see no difficulty in understanding that, whatever time it might require for the incipient life, all would have been so regulated by the Maker, that the first individuals of each class, might have appeared within six successive days! Everybody knows, that the period of gestation varies in different species of animals, from a few hours to many months, but we only note the date of *birth*: and as Moses was not attempting to write a treatise on natural philosophy, astronomy, geology, anatomy,

physiology, or embryology, we must not expect to find every thing in his account so minutely described as it would be by a modern professor of those sciences.

Moses allows latitude enough to satisfy the demands of science as to the inception of created beings and material things, by using the indefinite, but significant, expression, "in the beginning;" we therefore conclude, that the six days spoken of in Genesis, alludes to the respective periods when each class first appeared upon earth *in its perfect state*; nor do we see anything more incredible in *that*, than in many well attested facts in natural history. If large numbers of winged insects, which have been for a long time maturing in the water, suddenly rise to the surface and become tenants of the air, in an *hour*, can we not thereby comprehend how it might be possible and even probable that other animals arrived at maturity in a *day*?

Nor is it so wonderful as to surpass belief, that one class should appear on one day, and another class on the next or a subsequent day.

Some persons have raised objections to the Mosaical account of the first days of Creation, because "there could have been no evening or morning, neither day nor night, before the sun, moon and stars were created."

We have explained (at page 101,) how it is probable these luminaries were created at or before the Creation of this Earth, and (at pages 36 and 37,) why they

were not, and could not have been seen from this globe, prior to the *fourth day*, had there been any inhabitants here to look upon or be benefited by them, which there was not: there *was*, therefore, no necessity for the light of the sun, or of the moon, or of the stars, so far as this world was concerned; and the light might have been prevented by the thick cloud or chaotic mass of undivided waters, from reaching the surface of the earth, until about the time it would be useful for the stimulation of vegetable or animal life.

There have been some "dark days" on the earth, in comparatively modern times, when "candles had to be lighted at noon day;" was there no morning nor evening on those days? Shall we deny there being a sun, because we do not see it?

During a portion of every month we do not see the moon: shall we therefore deny its existence, or join with the Indians in supposing "it has been cut up for the purpose of making stars?"

The celestial bodies not having been visible on earth before the "fourth day," is no evidence that they were not previously created and prepared for giving light (on earth) upon that memorable day.

From the laws of motion relating to sidereal bodies, and from the origin of planets, it is evident the axial revolution must have commenced at the first formation of the earth, whether the sun did shine upon the surface previously to the fourth day, or whether it did not; the diurnal motion prevailed *ab initio*; so

that, to speak of "evening," "morning" and "day," without reference to the light of the sun, is not so unphilosophical as some may have supposed; for the diurnal or axial motion marked the time *then*, as certainly as it does *now*.

The desultory manner in which these essays were originally prepared, as explained in the introductory pages, will account for the argument in relation to this interesting and important portion of our subject, being introduced in detached portions, in different chapters. To avoid repetition, we must refer the reader to pages 36, 47, 71, 74, 100, 101, 105, 107, 108, 117 to 121, and other parts of this book, wherein he will find passages having more or less bearing on the question now under examination: some of them refer more particularly to other portions of duration, spoken of by Moses, but they show that he understood the division of time, and therefore when he spoke of a year or a day, he meant a year or a day, such as we mean, when we use those terms in their common acceptation.

We know the word "day," is sometimes used to express a long, or indefinite period of time, as "in our day"—"in the day of the Lord"—"in that day," &c.; in which sense it has, more than once, been used in this work; we also know, that "evening" and "morning" are occasionally used in an indefinite sense; but we do not remember ever to have seen all of them used in the same sentence, and in reference to one certain period of time, unless they were intended to express one day or one diurnal revolution of

were not, and could not have been, could have globe, prior to the *fourth* day, b^{ut} and the even-habitants here to look upon "the *second* day," &c. which there was not: "The *first* day," misinterpreted the city for the light of the stars, so far as the light might have been, absence of all satisfactory proof, or chaotic mass, it is impossible to suppose that we have the the surface, *evening*, *morning*, meaning, as that there are three be useful hours, which would be likely to be used on that life.

The word *evening* all hating a more extensive meaning, which can be translated so as to make as good, yet different sense, as "evening," "morning," and "day" now bear in our version of the Bible.

Perhaps we have said enough to satisfy all who are willing to be convinced, that, however *the fact itself may have been* in reality, Moses meant to say, and did say, that certain parts of the Creation, as described by him, took place in six consecutive days (of twenty-four hours each;) but inasmuch as

"A man convinced against his will,
Is of the same opinion still :"

it may be necessary to go a little farther, and examine, independently of the authority of Moses, what is *probable* and *reasonable*, in relation to the time occupied by those portions of the Creation which Moses says were performed in six days; for it will be recollect that he does not say, "the world was *made* in six days," as he has often been erroneously accused of

saying ; but the *contrary* ; for both the heaven and the earth were created "in the beginning," before the first of the six days commenced !

Let us, therefore, endeavor to ascertain, if possible, what would have been the probable means taken for creating men and other animals ; sequents as well as antecedents being considered. We have seen, that the Creator generally, if not invariably, adopts the most direct, simple, and efficient mode in accomplishing his ends : it is an essential attribute of Almighty power.

According to the objector's theory, it either took "a thousand years or more" to make *a man* ; or, a like period to make *men, beasts, and creeping things* : if the *former*, will he explain which part of the process required that vast number of years ? Was it the inceptive, corresponding with the embryonic or foetal condition ? If so, we need not dispute it, for such a view would not be contradictory or inconsistent with, although not necessarily a part of, the process alluded to by Moses ; it is a mere matter of opinion, and we do not believe it : but if he shall aver that it was the quickening process—the breathing into man the breath of life—the perfecting period, then we take issue and *deny it*, as inconsistent with Almighty power, and in derogation of the mode by which Omnipotence has been displayed on other occasions : for, admitting the organic law, it would be no more difficult to produce a million than a single individual, nor

to accomplish the process in "one day," than in "a thousand years!"

We had intended saying something as to the antecedents and the consequents, that would attend the formation of animals and vegetables, according to the slow process; there are thousands of chemical and physical objections; but we will not trouble the reader with such unnecessary speculations. After all, does it make the matter any plainer, to suppose that translators have not rendered those words aright? Will it harmonize more with known laws or facts, to read, "one thousand years," or any other great length of time, where our version reads "day?" Some geologists may answer in the affirmative, but such construction would subject the account to a thousand greater difficulties; chemical, physiological, philosophical, theological, &c.: nevertheless, as our object is not to assail modern theories, or theorists, but only to endeavor to show that the Mosaical account is reasonable and probable, perhaps we have said enough to explain, that, however long it might have required to form the rocks and other inanimate materials of which our planet is composed, and whatever time was required for the incipient stages of vegetable or animal life, there is no real difficulty in understanding how the development might have been made in six successive days: and with great deference to some learned men, who take the opposite side of this question, we must frankly say, that in our humble judgment, the Mosaical account appears to be the more reasonable

saying ; but the *contrary* ; for both the heaven and the earth were created "in the beginning," before the first of the six days commenced !

Let us, therefore, endeavor to ascertain, if possible, what would have been the probable means taken for creating men and other animals ; sequents as well as antecedents being considered. We have seen, that the Creator generally, if not invariably, adopts the most direct, simple, and efficient mode in accomplishing his ends : it is an essential attribute of Almighty power.

According to the objector's theory, it either took "a thousand years or more" to make *a man* ; or, a like period to make *men, beasts, and creeping things* : if the *former*, will he explain which part of the process required that vast number of years ? Was it the inceptive, corresponding with the embryonic or foetal condition ? If so, we need not dispute it, for such a view would not be contradictory or inconsistent with, although not necessarily a part of, the process alluded to by Moses ; it is a mere matter of opinion, and we do not believe it : but if he shall aver that it was the quickening process—the breathing into man the breath of life—the perfecting period, then we take issue and *deny it*, as inconsistent with Almighty power, and in derogation of the mode by which Omnipotence has been displayed on other occasions : for, admitting the organic law, it would be no more difficult to produce a million than a single individual, nor

up these "evidences" seriatim, and show to the unprejudiced reader, that most of them can be explained to be in harmony with, or at least not in contradiction to, the Mosaical account; but it would require more space than is contained in the whole of this volume; and therefore, we cannot undertake it at this time: it is not to be expected that in this little essay we should attempt to answer, much less to refute, the octavos of greater men than ourselves; yet, candor compels us to say, we have omitted our interpretation of "the book of Geology," merely because our present work is too limited, and not from any fear of finding the book of Genesis contradicted by the book of Nature.

We now leave this subject, important so far as it affects the credibility of the Bible, and interesting in a scientific point of view as it undoubtedly is, with the remark, that, as the man of mediocrity

" Feels not the wants that pinch the poor,
Nor plagues that haunt the rich man's door,
Embittering all his state"—

so, in our limited investigations, never having seen any good reason for believing that those portions of creation described by Moses as occupying only six days, required any longer period, we have not doubted his account, and therefore may have failed to appreciate and remove some of the difficulties which have straightened other minds.

The intelligent reader will decide for himself, which conclusion is the most rational.

Some persons have doubted that men lived many

saying ; but the *contrary* ; for both the heaven and the earth were created "in the beginning," before first of the six days commenced !

Let us, therefore, endeavor to ascertain, if possible, what would have been the probable means taken for creating men and other animals ; sequents as well as antecedents being considered. We have seen, that the Creator generally, if not invariably, adopts the most direct, simple, and efficient mode in accomplishing his ends : it is an essential attribute of Almighty power.

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find that a witness tells the truth in relation to those points which we have the means of testing, we may more readily yield our assent to his testimony in relation to those things of which we have no other evidence: and in addition, we have seen that other parts of the Mosaic account are sustained by geological facts.

“There is internal evidence, in the work being *consistent with itself*. We defy any sceptic to write a work of fiction of the size of the Pentateuch, professing to relate unusual events and extraordinary facts, giving names, dates, &c., that will be found thus to harmonise in its parts, and not frequently contradict itself.”

It will be observed that we have spoken of the Pentateuch as though it had been written by Moses. We are aware that his authorship has been denied; and we freely admit that he could not have written *the whole* of it; for example, that portion which relates his own death, and what Joshua and the children of Israel did afterwards; nevertheless, it is evident that much of those books must have been derived from Moses: such as the account of the burning bush, and what transpired thereat, when no human being but Moses was present.

The book of Deuteronomy commences thus;—“These be the words which Moses *spake*,” not *wrote*; then comes the story of what befell the Israelites on their way toward Canaan, as related by Moses to the children of Israel in his great speech which occupies

nearly twenty-six chapters of Deuteronomy : then follow sundry chapters containing other speeches, the song and sayings of Moses, who by Divine command wrote the song and the words of the law in a book, but not in the book of Deuteronomy !

If Moses was not the author, then those portions which treat of the Creation and Deluge were written by other and probably by older persons than himself—by those who had conversed with Noah, Shem, Ham or Japhet, or by these *last named individuals themselves!* or, so far as relates to the *Creation*, by Adam, or some of those to whom Adam had communicated the same. By referring to Genesis it will be found there are two accounts of the Creation, which if not contradictory, yet vary so far as to show they were written by different hands: one of those accounts, being as consonant with the *moral*, as the other is with the *physical* law; the seeming discrepancy affording, to the well instructed mind, additional evidence of the truth and excellence of the Holy Scriptures, and a practical ethical lesson of the highest importance.

These books, although sometimes written in the first person plural, always speak of Moses in the third person singular ; for example : “ And the Lord spake unto Moses,” * * * * and “ Moses commanded us a law—” * * * Who did the writer mean by “ *us?* ” The most cursory reader must observe that the writer, whoever he was, in speaking of Moses, is not speaking of *himself*; and therefore, when we speak of Moses as the writer of

the Pentateuch, we wish to be understood as speaking of whosoever *was* or *were* the writer or writers thereof.

It is perfectly immaterial *who* wrote those books—the Bible does not say that Moses wrote them. The only question worth considering is, whether they are *true*? We have therefore adopted the popular view, and called that portion of the Bible, the Mosaical account, because the compilers of those books have designated them as “the books of Moses;” that is, the books which treat of Moses, and of the times prior, during, and immediately subsequent to Moses; not the books *written* by Moses;—the name thus given being as convenient as any other. Remember, that the Bible is a compilation of the writings of various authors, and not the production of one or two individuals!

In thus speaking of the Pentateuch, we neither affirm nor deny the “inspiration” of Moses, that being within the province of the theologian, not the philosopher.

In conclusion we repeat, that if this new Theory be correct, the Mosaical account is reasonable and probable, the usual objections thereto arising from a misunderstanding of the text.

The Earth was formerly surrounded with a luminous ring (like Saturn,) composed of water, ice or snow, which descended to the Earth at the time of the Deluge. And it is among the possible things that

Saturn's rings may disappear, and cause a Deluge upon that planet !

"There was light" before the sun, moon or stars were visible on earth.

The antediluvians inhabited a portion of the Earth now submerged, and their whole number was insignificant when compared with the present population.

The account of the Creation and Flood, could have been transmitted by reliable tradition to Moses. That part of the Bible which describes the Creation, might have been written by Adam, or by some one or more of those to whom he related it. That portion which describes the Flood, could have been, and probably was, written by Noah, Shem, Ham or Japhet.

The Creation occupied six days of twenty-four hours each.

There was one, and only one, general Deluge.

The Ark was large enough to hold all the animals alluded to in the Bible account; and the Earth, so far from being rendered barren by the Flood, was fertilised thereby.

There have been subsequent Creations and Destructions of Planets: other great sidereal changes are approaching.

So also have there been postdiluvian Creations and Deluges. Another important change is about to take place on this Earth !

Finally, without relying on inspiration, and without denying it, the account contained in the Scriptures of truth is probable, rational, and worthy of belief and acceptation.

QUOD EST DEMONSTRATUM.

CHAPTER IX.

Description of the Plates, Diagrams, &c., with Explanatory Remarks and
Concluding Observations.

F R O N T I S P I E C E .

THIS plate is intended to convey some idea of the appearance of the Earth, during the period between the Creation and the Flood, when viewed at a great distance.

Fig. A—Represents the luminous ring when seen edgewise, the spectator being directly in front, and in the plane of the equator; in which case the outer edge of the ring would be observed, together with the greater portion of the sphere.

Fig. B—Gives the appearance when viewed in a straight line with the axis of the Earth, directly opposite to one of the poles, and at right angles with the plane of the equator, showing the flat or broad side of the luminous ring.

Fig. C—Is a perspective or oblique view of the Earth, surrounded by its luminous ring.

It was impracticable in a drawing of this size, to preserve anything like a *proper proportion* between the diameter of the Earth, and the distance, height, depth and thickness of the vaporic ring; therefore, nothing of the kind has been attempted. The intelligent

reader will easily comprehend this, and will make allowance accordingly.

In Chapter II., we have spoken of this ring as being *narrow*; we still incline to that view; nevertheless, it might have been a *wide* band, resembling in shape, the tire of a heavy cartwheel, or a section of a hollow cylinder or globe: in our present state of knowledge, it is impossible to speak with certainty as to that particular. So far as the new theory is concerned, it is not very material what shape that band or ring presented, although from the laws of motion as applied to spouting fluids, we believe it must have been as described in the text, namely, a narrow belt, (comparatively speaking,) encircling the Earth about the equatorial region.

PLATE II.

Fig. I.—Represents the condition of things on this Earth on the second day of Creation, immediately after the waters had been divided from the waters, and the firmament interposed between them; as described in Chapter II.

“The firmament” includes the space surrounding the Earth, now occupied by the present atmosphere, (about 45 miles in height,) and also a large part of space, called “the heavens;” consequently, we could not make the different divisions bear a due proportion to each other, without making some parts so small that the drawing would have been unintelligible; and, therefore, this has not been attempted. For example;

PLATE II.
SEPARATION OF THE WATERS.

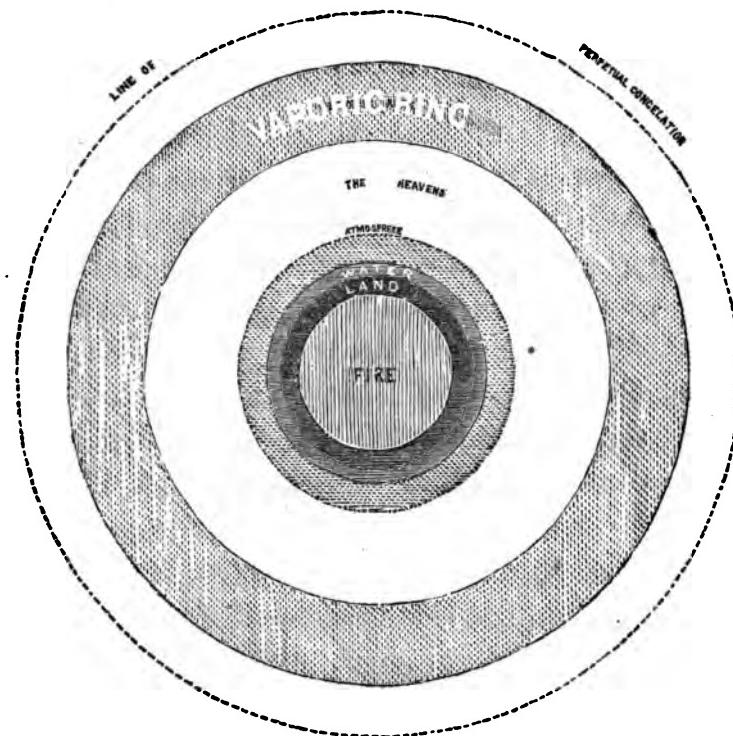


Fig. I.



Fig. II.



the interior of the earth, of which we know but little, except that it is a molten mass of excessively heated materials, marked in the drawing, (for the sake of brevity,) with the word *Fire*, should be much larger, and those portions representing the land and water much smaller than they appear in the drawing. This is especially true in relation to the water. To have that delineated in just proportion to the other parts, would have rendered it scarcely perceptible in a drawing of this size.

To have enlarged the drawing to the same scale of depth or thickness with the water on the surface of the globe, as given in this drawing, would have required the other parts to be so large that no map—much less any book we have ever seen—would contain it. The exact proportions are unimportant, so far as a clear understanding of the matter is concerned. Our object being, to convey our meaning to the *mind*, rather than to the *eye*. We hope this diagram, imperfect as it is, with the letter press of the chapter referred to, will be sufficient for the purpose.

Fig. II—Is a small apparatus for producing fire by the compression of atmospheric air. It consists of a metallic cylinder A, closed at one end B, but open at the other end. C, is a piston with an air tight flange or plunger D, to the underside of which is attached a small piece of punk, tinder or other easily ignitable substance E; and on the other end of this piston is a button F.

To produce fire, the cylinder is held in one hand

with the piston extended, as in the drawing; the button is then stricken briskly with the other hand, knocking the plunger down to near the bottom of the cylinder. It springs back by the elasticity of the enclosed air, and is immediately withdrawn from the cylinder; when the punk or tinder will be found to be ignited.

We must apologise to philosophers (should any such read this little work,) for introducing this trifling instrument, as well as for many statements, explanations, calculations and remarks, which to them must appear trite and tiresome: let them remember, we are not attempting to teach the learned, but the unlearned.

PLATE III.

Fig III—Is another “amorphous” drawing, in which we have introduced, without regard to regularity, a small portion of the suns and systems which counteract the attraction of our sun upon the Earth; causing the annular motion of our planet.

The doctrine of repulsion is objectionable; because if the velocity had ever exceeded the centripetal force, (which must have been the case when it ejected a planet,) the whole body of the sun would have been broken to pieces, (as is sometimes the case with an over-driven grindstone,) instead of merely throwing off one or two portions at long intervals of time.

Repulsion presupposes the centrifugal, to be necessary to restrain the centripetal force; or in other words, that the Creator did not succeed in correctly

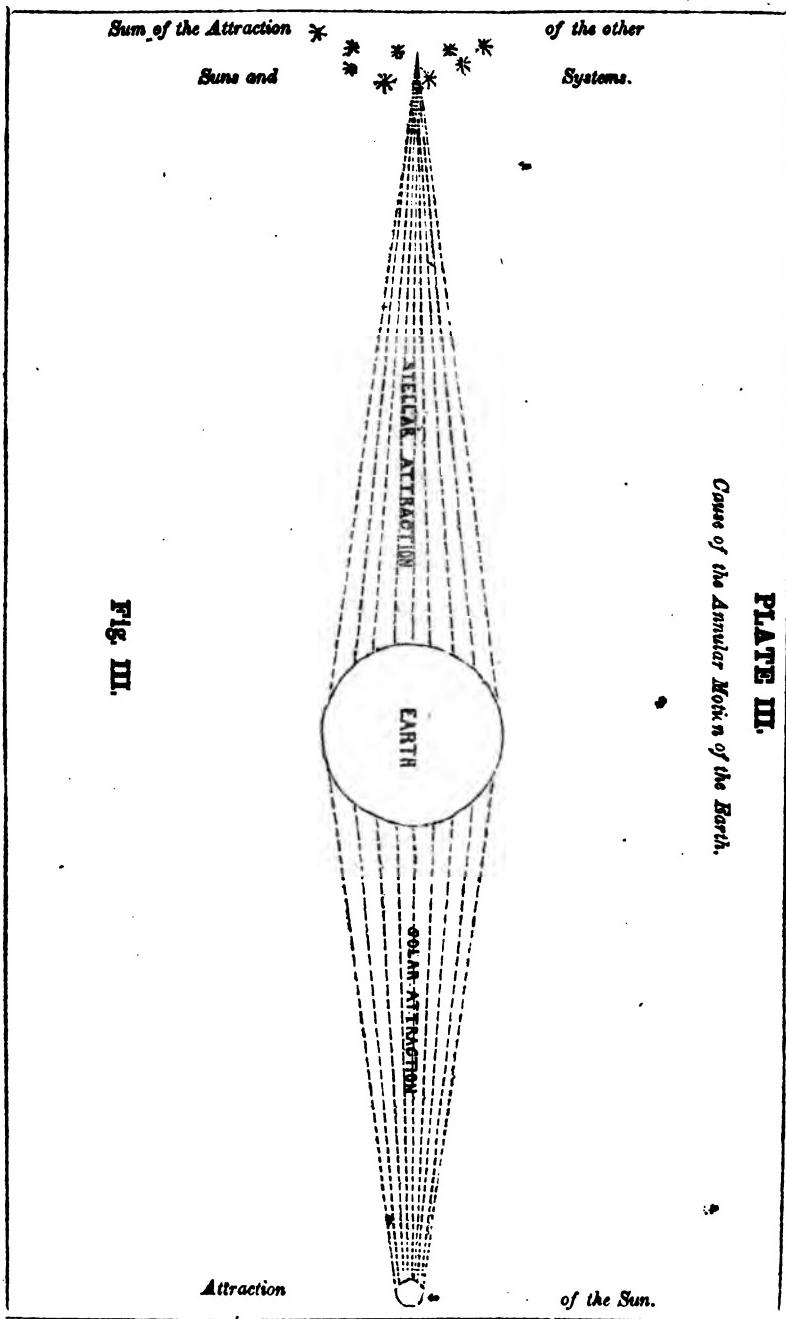
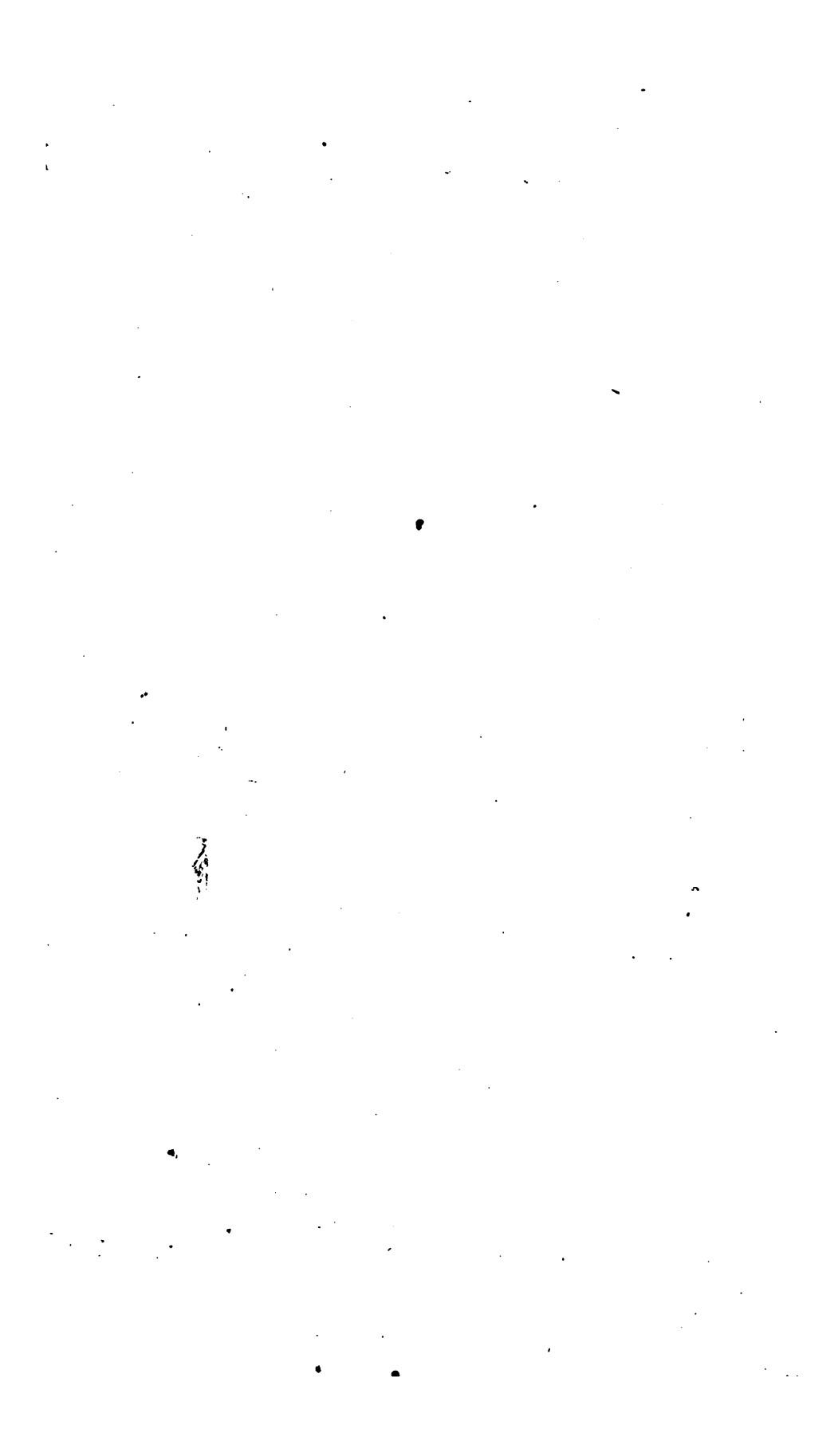


Fig. III.



balancing these two great forces, and that, as in the case of some contending political powers, if either should prevail, "we the people," must suffer. If the centrifugal force should prove the stronger, there would be a universal scattering—a flying to pieces; or, if the centripetal should prevail, there would be a mighty consolidation, equally destructive to the present order of things.

Attraction belongs to every celestial material body, (of which our Earth is one,) in proportion to bulk, density, distance, &c., which law counteracts or prevents any mischief from this tremendous power, without any necessity for repulsion, and thus keeps things *for the present*, in *statu quo*: that it may not always do so, is more than probable, for reasons which would be given, were we examining "the law of progress;" but not wishing to extend these remarks, we must pass over this (to us) highly interesting portion of our subject.

Had the original projectile force been sufficient to eject a large planet from the sun, it would have torn the sun to pieces: for, we do not believe that such a partial centrifugal force would operate on one section only, without pervading the whole mass.

If the velocity of a rotary body becomes so great, as to destroy the attraction of gravitation and of cohesion, that instant, the binding cord is loosed, that body is broken, and it flies into pieces; which pieces, would be angular and fragmentary, like some of the asteroids, which are evidently the remains of a planet where something of this kind has already taken place.

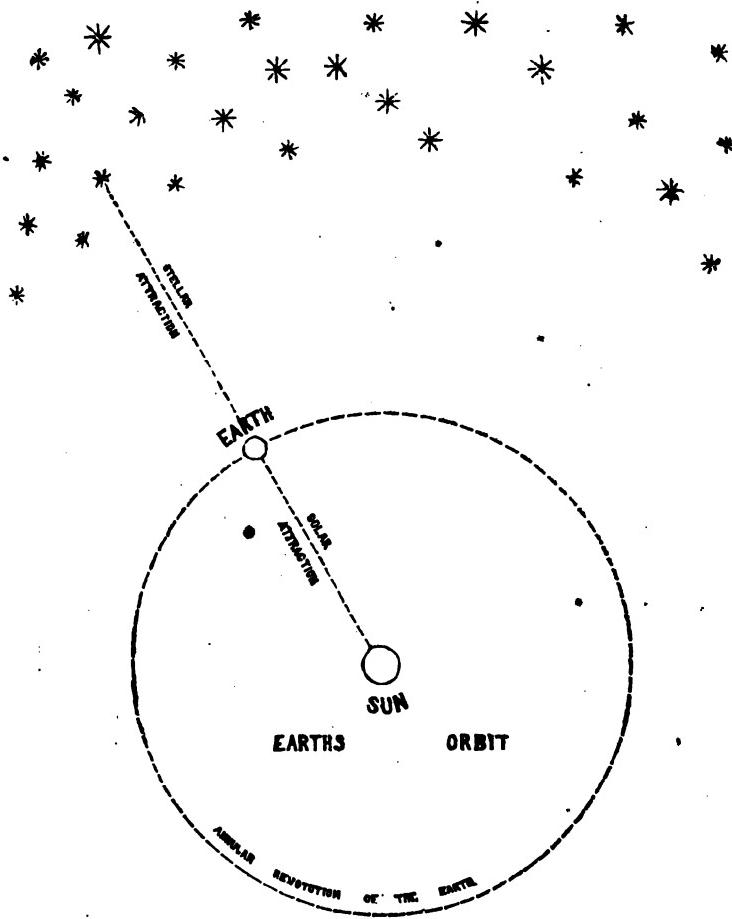
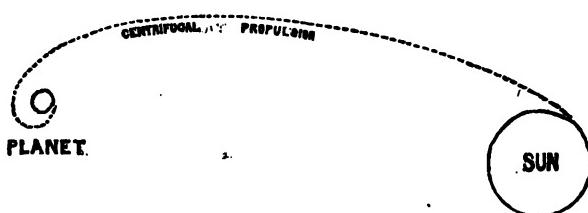
Some of those who advocate contraction, coagulation, induration, or attraction, assert that the sun has been stripped of an outer coat, as a shellbark or hickory-nut casteth its rind or outer covering, allowing the nucleus or remaining portion to retain its shape, solidity, or fluidity, as the case may be.

In the diagram, we have represented stellar attraction as concentrating to a point; which point is always in the centre of the attraction of the suns and systems that are within sufficient distance to possess any influence. Here our drawing is entirely at fault; for we could not show the other suns or systems without such distortion, as to size and distance, as would lead to confusion rather than perspicuity: the reader will please locate them mentally, far beyond the picture. We have done the best we could for him, whilst treating, in our small way, of such magnificent distances.

PLATE IV.

Fig. IV—Is an attempt to explain by a different diagram, the mode in which the Earth is caused to revolve annually around the sun by means of the sun's attraction, on the one side, and the sum of the attraction of all the other suns and systems within disturbing distance, on the other.

Admitting that the sun, stars, planets and satellites, have each a power of attraction, called "the attraction of gravitation," there must be a point between them where that attraction is equal: distance, bulk, density, velocity, &c., will determine that point:—it

ATTRACTION----REPULSION.**Fig. IV.****Fig. V.****PLATE IV.**



is not necessary that an enormous sun should be placed there, to indicate the spot, or for any other purpose.

By referring to the diagram, and considering the Earth's orbit as there laid down, to represent the line of neutralization, or the line along which attraction in all directions is equal, we can readily understand why the earth continues to revolve around the sun, while prevented from falling into that luminary by the stellar attraction, and in like manner prevented from joining the stars by the solar attraction. There it stays and must stay, until by the operation of the fundamental law alluded to in the preceding pages, or by "the law of progress," (as yet not well understood, but which evidently governs the physical, and probably the moral and spiritual world also,) the time shall arrive, when the great, and as to sublunary affairs, the final change, will take place.*

Fig. V—Shows the mode in which some philosophers believe the planets were ejected or thrown off from the sun.

This doctrine of ejection of planets, requires the projectile or centrifugal force to counteract or overpower the centripetal or gravitating force; which seems to imply, that the Creator could not make a law which would accomplish just so much as he desired

* "If the universe were at rest, the location of equal attraction between any two bodies or systems would be a point; but, as all worlds and systems are in motion, it must vary from time to time with the relative positions of the different bodies composing the universe, and the law governing these changes of position, will determine the orbit in which any one body will be drawn along by the common attraction of all of them."

and no more; but that he found it necessary to make one law to restrain another; the neutralizing force being lost or wasted. This might do for finite man, but is inconsistent with the attributes of Omnipotence.

In conclusion, we infer from the preceding data, that the present state of things on this Earth cannot continue much longer; a change must come:—it will not wait:—in the counsels of the Deity it has been determined, though the time *when* has not yet been made known to man. Just as each individual knows he must certainly die, but is ignorant of the exact time and place when his death will occur, so we feel confident that the Earth is not eternal;—that as it had a beginning, so it must have an end. And *that end may be nearer than some philosophers are willing to admit!*

If Sir Isaac Newton was correct in believing that *the planets are worlds subject to the same laws which prevail here*, they, and all other sidereal material bodies will have to submit in their turn to a like doom—to be replaced by other and better worlds, by “new heavens and a new Earth, wherein dwelleth righteousness.”

The Power which enacted the law that binds the Universe together into one harmonious whole, (cosmologically considered,) has also made the same or other laws, for the destruction of each component part, when it shall have accomplished the purpose for which it was created. These laws are now operating and must be

fulfilled. We do not know, and therefore cannot tell the date, but come it will! Other and better Worlds will be created, and a still further display made (perhaps to superior beings,) of the power, wisdom and goodness of the Almighty—"the Alpha and Omega—the beginning and the end,"—to whom belongeth all glory and honor, might, majesty and dominion,—now and for ever.

THE END.



A D D E N D U M.

BIBLICAL CHRONOLOGY,

According to the Hebrew text—from Adam to the death of Moses.

Birth of Patriarch.	His Name.	Son born.	Lived afterwards.	Whole age.	Died Anno Mundi.	Remarks.
An. Mi.	Adam,.....	130	800	930	930	Lived until 126 yrs of Noah.
130	Seth,.....	105	807	912	1042	" 14 do.
235	Enos,.....	90	815	905	1140	Lived until Noah was 84.
325	Cainan,....	70	840	910	1235	" " 179.
395	Mahalaleel,..	65	830	895	1290	" " 284.
460	Jared,.....	162	800	962	1422	" " 366.
622	Enoch,.....	65	300	365	987	57 yrs after death of Adam.
687	Methuselah,..	187	782	969	1656	The year of the flood.
874	Lamech,...	182	595	777	1651	5 years before the flood.
1056	Noah,.....	502	448	950	2006	350 years after the flood.
1558	Shem,.....	100	500	600	2158	152 years after Noah.
1658	Arphaxad,..	35	403	438	2096	62 years before Shem.
1693	Salah,.....	30	403	433	2126	32 do.
1723	Eber,.. .	34	430	464	2187	29 years after Shem.
1757	Peleg,.....	30	209	239	1996	162 before Shem.
1787	Rea,.....	32	207	239	2026	132 do.
1819	Serug,.....	30	200	230	2049	109 do.
1849	Nahor,.....	29	119	148	1997	161 do.
1878	Terah,.....	70	135	205	2083	75 do.
1948	Abram,.....	100	75	175	2123	35 do.
2048	Isaac,.....	60	120	180	2228	Was 110 when Shem died.
2108	Jacob,.....	93	54	147	2255	50 do.
2201	Joseph,.....	.....	.....	110	2311	Was 54 when Jacob died.
2590	Moses,.....	.....	.....	.....	.....	In 2630 fled from Egypt.
	"					2670 Exodus of the Jews.
	"			120	2710	Moses died, and Jews entered the promised land.

Adam was created before the birth of Jesus Christ, 4004
 The flood was in the year of the World, 1656 before Christ, 2048
 Serug* was born, A. M. 1819. " 2185
 Abram,...."..... "..... 1948. "..... 2056
 Jews entered Egypt,..... "..... 2240. "..... 1764
 Athens founded by Cecrops,..... "..... 2448. "..... 1556
 Exodus of the Jews,..... "..... 2670. "..... 1334
 Moses died, Jews entered Canaan, .."..... 2710. "..... 1324

* Serug was the great grandfather of Abram.

REMARKABLE ANTEDILUVIAN EVENTS,
In the order of time in which they occurred.

An. Mdi.	Patriarch's Names.	Remarks.
1	Adam.....	created : lived to see 8 of his generations.
130	Seth.....	born : lived to see 7 of his.
235	Enos.....	" }
325	Cainan.....	" }
395	Mahalaleel.....	" }
460	Jared.....	" }
622	Enoch	" lived until his grandson Lamech was 113.
687	Methuselah	" " until the year of the flood, in the 600th year of Noah.
874	Lamech..	" " within 5 years of the flood,
930	Adam.....	died 56 years after Lamech was born.
987	Enoch	translated 57 years after death of Adam.
1042	Seth (Adam's son),	died 14 years <i>before Noah was born.</i>
1140	Enos (grandson)..	" 84 years <i>after Noah was born.</i>
1235	Cainan.....	" 179 do.
1290	Mahalaleel.....	" 234 do.
1422	Jared.....	" 366 do.
1056	Noah	born whilst six of the above named patriarchs were living.
1558	Shem.....	" whilst two of them were and living, 98 years before the flood.
1651	Lamech.....	died five years before the flood ; his son Noah being 595.
1656	Methuselah	" in the year of the flood, Shem was then 98 yrs. old.

ADAM lived until *Seth* was 800, *Enos* 695, *Cainan* 605, *Mahalaleel* 585, *Jared* 475, *Enoch* 323, *Methuselah* 248, and *Lamech* 56 years of age. So that there was ample time for Adam to communicate to them, and they to each other, the wonderful account of the Creation, so far as it was known to Adam by observation, inspiration, or revelation.

REMARKABLE POSTDILUVIAN EVENTS,
From the Deluge to the time when the Jews entered Egypt.

An. Mdi. *	Patriarch's Names.	Remarks.
1658	Arphaxad..	born : died 62 years before his father Shem, and when Isaac was 48 years old.
1693	Salah	" lived 3 years after death of Abram, and until Jacob was 18 years of age.
1723	Eber.....	" lived 181 after Noah, and until Jacob was 79.
1757	Peleg.....	" died 10 years before Noah, Abraham then being 48.
1787	Rea	" lived 20 years after Noah, and until Abraham was 78,
1819	Serug.....	" lived until Abraham was 101, and until after Isaac was born.
1849	Nahor	" grandfather of Abram, (died 9 yrs before Noah.)
1878	Terah.....	" father of Abram, died 77 years after Noah, 75 before Shem.
1948	Abram....	" whilst two antediluvians, Noah and Shem were living ; one being 892, the other 890. Noah, Shem and Abram then living.
1997	Nahor	died do. do.
1996	Peleg.....	" when Abram was 58 years of age.
2006	Noah.....	" 132 years before Shem, and 20 yrs. after Noah.
2026	Rea	" was 110 years old when Shem died.
2048	Isaac	" 109 yrs. before Shem, and 43 after Noah.
2049	Serug.....	died Abram's father, died when Abram was 135 years old, Isaac then being 35.
2083	Terah.....	" when his father Shem, was 538, and Abraham 148 years old.
2096	Arphaxad..	" 50 before death of Shem.
2108	Jacob.....	born 35 do. 8 yrs. before Salah : 64 before Eber.
2123	Abraham..	died 32 do. 61 before Eber.
2126	Salah.....	" having survived Abraham 35 years : Isaac then being 110 and Jacob 50.
2158	Shem.....	" last surviving ancestor of Abraham ; died when Isaac was 139 and Jacob 79.
2187	Eber.....	" when his grandfather Isaac was 153 years old.
2201	Joseph....	born into Egypt ; Isaac then being 170, Jacob 110 years of age.
2218	.....	sold whilst Joseph was a servant to Potiphar.
2228	Isaac	died stood before Pharaoh, and made prime minister.
2231	Joseph.....	.....
2240	.....	..... The Jews entered Egypt.

REMARKABLE EVENTS,
**From the time the Jews entered Egypt, until they arrived at
 the Holy Land.**

An. Mdi.	Patriarch's Names.	Remarks.
2255	Jacob...	died whilst Joseph was prime minister.
2311	Joseph...	" 56 years after his father.
2590	Moses ..	born 279 after the death of Joseph.
2630	...“....	fled from Egypt.
2670	.....	Exodus of the Jews.
2710	Moses...	died 120 years old ; Jews entered promised land.

MEMORANDUM.

Noah lived to see his descendants to the tenth generation, inclusive. All the patriarchs between Shem and Joseph, were born *whilst Shem was living*; Jacob (the youngest of them,) being 50 years old when Shem died.

The average term of life of the ten patriarchs from Adam to Noah, inclusive, was 857 years; that of the succeeding ten, from Shem to Abram, both inclusive, was about 317 years: that of the four patriarchs, Isaac, Jacob, Joseph and Moses, was a little over 139. Afterwards it decreased to "three score years and ten." Since then it has been much less; during the last half century, it has been and is now slightly on the increase.

As Adam was the first to live, so was he the first to die a natural death: during the first 1000 years of man's existence, we have account of two who were murdered, one "translated," and only *one* who died "in the natural way;" and that was Adam.

ANTEDILUVIAN COTEMPORARIES.

Adam, Seth, Enos, Cainan, Mahalaleel, Jared, Enoch, Methuselah and Lamech, were all living at one time, in the year of the World,.....	929
Enos, Cainan, Mahalaleel, Jared, Methuselah and La- mech, lived until after the birth of Noah, in the year.....	1056

POSTDILUVIANS.

Nahor, Serug, Rea, Peleg, Eber, Salah, Arphaxad, Shem and Noah, were living at the birth of Terah, (Abram's father,) Anno Mundi,.....	1878
All of them were living 70 years thereafter, <i>when Abram was born</i> , in the year.....	1948
And continued to live for 49 years longer, making 119 years ; when Nahor died, in.....	1997

Many of the patriarchs were living at various other periods; so that the story of the Creation and Deluge, could have been transmitted and corrected, by divers persons, to whom Adam had communicated the one, and Noah the other.

Supplementary Remarks.

Attraction of gravitation upon objects above the surface of the Earth, is always towards that surface, and generally in a direction towards the centre of the globe; the variation, as in the case of mountains and other large masses of matter, being so slight as scarcely necessary to mention in this connection. This tendency towards the centre has misled some persons to suppose that the centre of the earth was the centre of terrestrial gravity, and that attraction continued to increase until we reach the centre. The weight of this planet, its disturbing influence and various other phenomena, lead us to doubt that theory; among other important facts, it has been ascertained, that the law of attraction, as applied above the surface of the globe, *changes*, the moment we descend below the surface; as explained at page 57, to which the reader will please have the kindness to refer, in order to save the necessity of repetition: he will there find our reasons stated for asserting that, at the centre, the attraction is nothing, or for greater perspicuity we should say, is imperceptible, being equal in all directions, and that *outward*.

Consequently, there is a place somewhere between the centre and circumference of the earth, where the

case is different, that is, where attraction converges, or rather does not diverge; but the cause is the same, although the effects are opposite; namely, equal attraction; which place, for the sake of brevity, we call the neutral point, but which might properly be styled, the line of demarcation, or more strictly speaking, the spherical boundary of internal attraction, which marks the position where the upward and downward attraction meet, and bind the world together as by a band of iron, with an interlocking force, which none but the Almighty can destroy. That neutral point, for obvious reasons must be much nearer the upper, than the under surface of the crust of the earth; which crust itself, is only of small comparative depth or thickness.

This spherical boundary, or maximum of attraction, accounts for the difficulty of sounding the deepest part of the ocean; for when the lead reaches that point, it remains at rest, neither tending to move downward nor upward.

If the views which we have thus briefly expressed, be correct, then it is not necessary that the sea should everywhere have a solid bottom. We see no reason why the under surface of the crust of the earth may not be part land and part water; for as at present advised, there would be no more danger of the water "falling" from that internal sea, than there is, of its falling from off the exterior part of the earth; for the same power (attraction of gravitation,) which prevents it from rising above the outer surface of the globe, will

prevent its falling below the inner surface or into the abyss below.

Should all this be true, then an apparatus might be constructed, one part of which could be projected beyond the neutral point, and by its levity rise (or descend, if you prefer so to express it,) carrying along with it the string to which it is attached, until it came to the inner surface, and thus we could solve the apparently solecistical problem of "finding the depth of the sea where there is no bottom!"

At page 89, we have alluded to the rain which accompanied an earthquake at Cumana, in South America. Judge Butler, in a letter to a friend, dated April 15, 1847, speaking of many severe shocks that occurred in New England, says: "From my own observation, I have found that every shock which I have noticed, has either been preceeded or succeeded by a storm,—generally a storm has followed in proportion to the violence of the shock. We have had three or four shocks in February, which were followed by rain." "Storms," Professor Espy, in his "Philosophy of speaking of "*Meteoric rivers and waterfalls,*" informs us, that the water spouts, at Hollidaysburg, Pennsylvania, were accompanied by a great rain.

We admit there have been *earthquakes* unaccompanied by rain, and that the connection between the phenomena is not very obvious; but we can easily comprehend why a rain, such as we have never experienced in our day, should have accompanied the convulsions which took place at the time of the Deluge.

There are many things both in heaven and earth, that we have never seen, or if seen, appear very different from what we know them to exist in nature, and entirely contrary to what they would seem to be, when viewed from some other point of observation.

Were the earth seen from the sun, it would appear to describe a circle among the stars, from west to east. Seen from the moon, it exhibits the same phases that the moon does to us; when the moon is full to us, the earth will be dark to the inhabitants of the moon; and when the moon is dark to us, the earth to them is full; appearing to them 13 times larger than the moon does to us!

As the moon turns on its axis in the same time that it goes round the earth, it always exhibits the same side to us; consequently, we never see the other half of the moon's surface, and the earth is never seen by those who are on that portion of the moon. So that one who dwells on the far side of that satellite might say, there is no such planet as the earth, with as much propriety, as those do who say, there was no sun nor moon because they were not, and could not have been, seen on earth prior to the fourth day mentioned in the Bible: nevertheless, should any of these doubting inhabitants of the dark side of the moon, visit the side nearest the earth, he would behold an orb far more splendid than the sun or moon appears to us.

Those who dwell near the edge of the moon's illuminated disk, will always see the earth near the horizon; those in or near the centre will always see it

directly overhead ; those who dwell on the moon's south limb, will see it to the northward ; those on the north limb will see it to the southward ; those on the east limb will see it to the westward ; whilst those on the west limb will see it to the eastward. Similar appearances of their respective primaries, will be exhibited to the inhabitants of most, if not all secondary planets.

Suppose the moon to be inhabited, and that a person from each quarter, and one from the centre of its illuminated side, should travel to the other side and undertake to teach astronomy to the benighted inhabitants, and particularly to describe to them the appearance and location of that splendid orb the Earth ; the northern man would tell them it was located in the south, the southerner would deny it, and contend it was in the north, the eastern man (the lunar Yankee,) would declare it was on the west, and the western man would assert it to be in the east. Here would be four contradictory assertions, all of which could not be true, whilst the central philosopher would pronounce them all false, and aver it was located in the zenith ; and yet each of these teachers, could appeal to the traveller's argument,

"I've seen and sure I ought to know."

In order to have a clear appreciation of natural phenomena, it is not only necessary to see, but also to be in the right position to see correctly ; or else we must make due allowance for the false position in which we stand.

Had one of our modern sceptics been upon the earth on the second day of Creation, he would not have seen either sun, moon or stars; consequently, he might conclude there were none in being, and could very plausibly undertake to fortify that opinion by appealing to the Bible, (as some do at this day,) to show that these luminaries were not created until the fourth day: but for reasons heretofore given, we should doubt his conclusion, although admitting his statement; which would amount to this, that they were not then to be seen from the earth.

Mercury and Venus exhibit the same phases to us as the moon does, but these changes were not discovered by the naked eye, such being among the mysteries revealed by the telescope.

On account of the immense distance of Jupiter from the sun, observers located there, with our powers of vision, could never see Mercury, Venus or the Earth, for they are always immersed in the sun's rays: would it be wise in them to affirm that those planets do not exist? On the other hand, they may have advantages attendant upon their position; for we know not how many planets belonging to our system beyond the orbit of Saturn, are distinctly visible at Jupiter, which are precluded from us by the feebleness of their light; so also, there might be planets nearer the sun than Mercury, which we cannot discern because they are immersed in the sun's rays; shall we hence conclude and assert there are none?

By perturbation or the want of it, (or otherwise) we may ascertain whether there are or are not such planets, but the mere negative evidence of our not seeing them, is by no means of itself sufficient to prove that they do not exist.

That brilliant zone, known as the milky way, which appears to us to be a narrow irregular band encircling the earth, to an observer placed at right angles to the plane thereof, and at a moderate distance therefrom, would seem to be an immense field of stars (including our sun,) far surpassing in number, brilliancy and magnitude any thing observable from the earth; whereas, to an observer in the same direction, but at a great distance off, this innumerable host of stars, would resemble a nebulous cloud; and some philosopher in that distant position, may be at this moment endeavoring to demonstrate that this nebula is only "a fiery haze," or "preparatory matter," out of which, at some future time, a world or worlds like his own, will be formed: for if the sun which gives light and heat to the globe which he inhabits, appears to us a mere particle of nebulous light—so may our sun appear to him. The earth being at a mean distance of ninety-three millions of miles from the sun, when we look up into that celestial galaxy and remember that the nearest of those stars is two hundred thousand times farther from the sun than we are, and that other stars may be *much farther than that*, from those which are nearest to us, and then consider, that to an observer placed at a great distance as above intimated,

they seem to approximate so as to appear as near neighbors to each other, so much so, as to form an almost continuity of light, or Magellenic cloud, we may form a faint conception of the immensity of space occupied by the "heavenly host:" and if this does not enlarge our ideas of the power, majesty and glory of the Creator, we must indeed be dull of comprehension. We know of no science, the study of which is better calculated to enlarge the mind, and exalt our ideas of the Supreme Being, than that which treats of the heavenly bodies; nor will our wonder and adoration be diminished when we descend, and by the aid of the solar microscope and other appliances, look into the minutiae of things around us not discoverable by the naked eye: so that, whichever way we look, we are astonished at the wisdom, power and goodness of the Almighty. Whoever can suppose all this to be "the work of chance, that has always been and will always remain," must be of small mental calibre, or have an obtuseness of intellect greatly to be pitied, and is to be pardoned only upon the principle of natural obliquity or want of sense: that is upon the plea of *non-compos-mentis*.

All the primary planets, seen from the sun, always appear to move from west to east, which is their direct motion. But as seen from any planet, each of them except itself, appears to move from west to east part of the time, to be stationary part of the time, and to move from east to west part of the time, which is called their retrograde motion; consequently, while the

motion of Venus is direct, stationary or retrograde to us on earth, the motion of the earth will be direct, stationary or retrograde, reversely, to the inhabitants of Venus; and the same motions which the earth exhibits to the inhabitants of Venus, each of the exterior planets, Mars, Jupiter, Saturn, &c., exhibits to us.

As the apparent magnitude of the other planets vary according to their greater or less proximity to us, so does the apparent magnitude of the earth vary to them.

None of the sidereal bodies, unless they be in their zenith, appear in their true position in the heavens. Refraction and diurnal or horizontal parallax make those bodies appear where they are not: refraction elevates, parallax depresses them: they are both greatest at the horizon, and vanish at the zenith.

The distance of Mercury from the Sun is to that of the Earth nearly as 3 to 8; therefore, the degree of heat and light at Mercury is to that of the Earth, nearly as 64 to 9. Consequently, at Mercury, heat and light are about 7 times greater than with us. Astronomers assert, "*Water would there fly off in steam and vapor,*"

"In the beginning," that is to say, at the creation of "the heaven and the earth," spoken of in Genesis, the sun being immensely larger than at present, (occupying the whole of the present orbit of Venus,) consequently, much nearer the earth than it is now, and affording light and heat in proportion to its

greater proximity, it requires no appeal to arithmetic, to show, that the heat on the earth at that time was sufficient to cause the water to "fly off in steam and vapor," and thus form the *vaporic ring* around the earth of which we have spoken.

Since the preceding pages were printed, and long after most of them were written, a new work has appeared upon "the Plurality of Worlds," in which the learned author asserts, that *the rings which surround Saturn are formed of water*; thus far, corroborating our theory. He also goes further, and says, *the surface of Saturn is covered with water*. We assert the same to have been the case with the earth, prior to the separation of the waters, and soon after that separation, the greater part of the earth's surface continued covered with water, until the time of the Deluge.

It may therefore be, that *Saturn is in a condition somewhat analogous to that of the earth prior to the Deluge*, and that a change of level will some day take place upon that planet as it did on this; and then those rings descending, for the reasons stated at page 35, will deluge that planet, and thereby prepare it to sustain millions of sentient beings, resembling in their essential nature, the race of mankind.

Having asserted that "the Almighty never uses *two means to produce an end when one will answer*," it may be thought our explanation of the Deluge, con-

tradicts this assertion, because *two* means were used on that occasion.

Had there been only *one*, a change of level for instance, the parts that sank would have fallen into the fiery abyss below, or approached so near it, that they would have melted by reason of the excessive heat; and in some of these deep valleys might have collapsed; the continuity of the solid crust of the earth would have been destroyed, the world would then have taken fire or have exploded; the outer crust being too thin under such circumstances to resist the action of the heated interior gases: whereas, by a simultaneous deposition of the icy cold water from the regions of perpetual congelation, the sunken portions were kept cool and their solidity preserved; hence the Deluge was a work of *preservation*, rather than of *destruction*; a seeming evil, but a real good: and is another proof that "there was a physical necessity for the Deluge."

It has been suggested, that if "it is to the ignorance, folly or wickedness of man, that we should ascribe the fearful calamities" which sometimes affect mankind, then after the present order of things was established, and before man appeared on this Continent, it must have rained about once a week—just enough to keep vegetation in fine growing order—and no more! That then there could have been no tornadoes, great storms, tempests or floods, such as we have

now: no drouths; no elemental strife; all must have been peace, security and prosperity; but no sooner did man begin to exercise dominion, than destruction or devastation followed in his train. And thus it may be possible for man so to regulate his affairs, that it will rain one day in the week at each place, and no more, whereby the inhabitants would know what day it would rain at their place of abode, or if it did not rain on that day, they would know that it certainly would not rain (in that place,) until that day week; and then we should be able to tell before hand, when it would rain, or rather when it would not rain, as certainly as we now know when the sun will rise to-morrow! Mechanics, farmers and travellers—all whose business or pleasure depend upon the state of the weather, could then regulate their affairs accordingly. There would then be no loss of crops, of ships, or other property from stress of weather.

In the text, we have alluded to "the change in the meaning of words, which occasionally takes place in all living languages" A notable instance occurs in the correspondence between James II of England, and the great and good William Penn.

When King James had taken refuge in France, he wrote to Wm. Penn, reminding him of the many favors he (the king) had conferred upon Penn, and inviting him to make a proper return or acknowledgement thereof by coming over to France to see him.

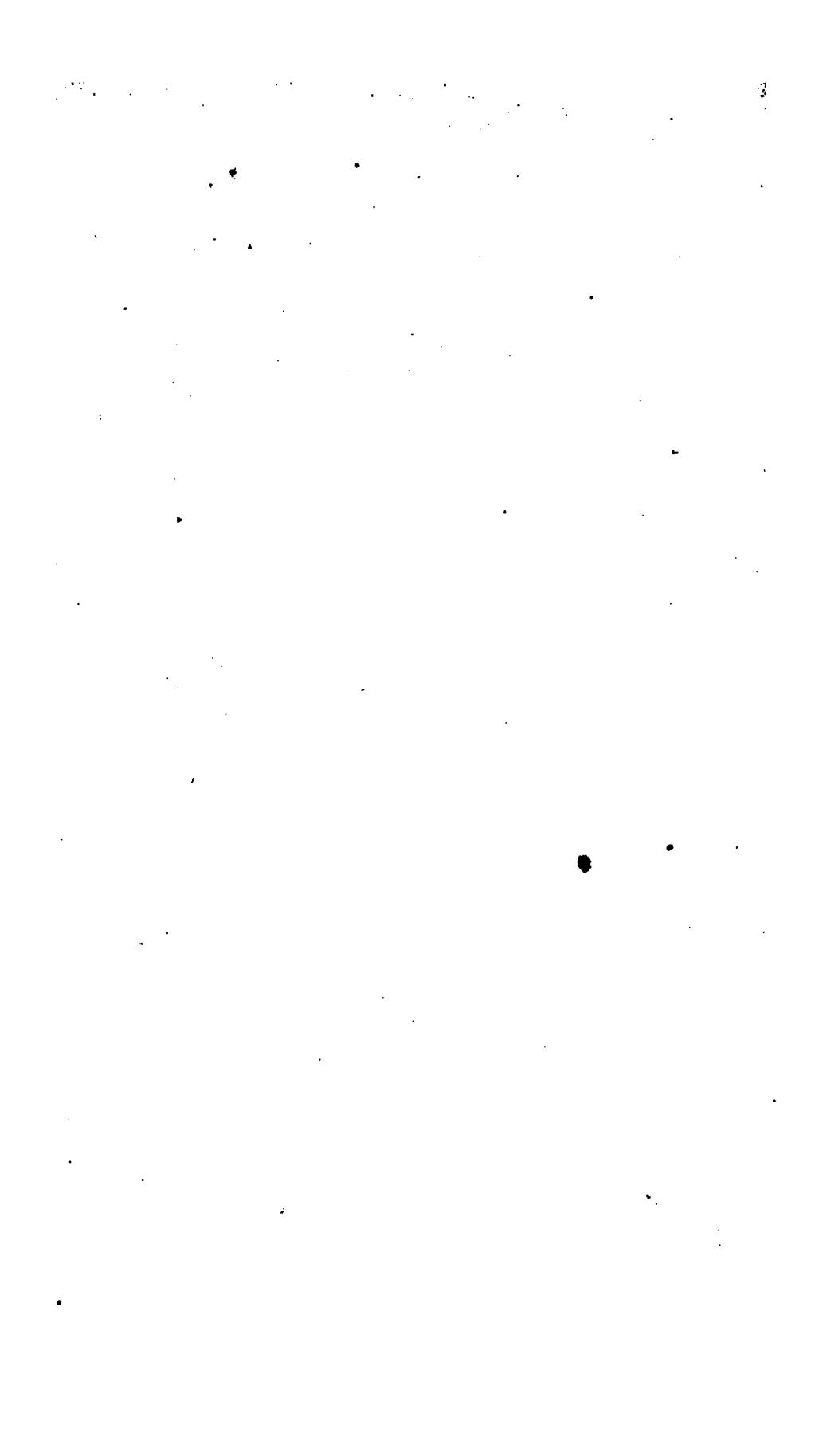
To this letter, Penn wrote a beautiful reply, acknowledging his many obligations to King James, but modestly intimating he might be more serviceable by remaining in England; and uses this remarkable expression: "I will show my resentments by my works." Now, the word *resentment*, at this time, means returning evil for evil, whereas, it is evident that Penn meant, he would return good for good!

Opticians have not as yet been able to make a telescope that will show whether there are inhabitants in the moon; because, by magnifying or expanding the surface of the moon, they at the same time, necessarily thereby expand the light, which, the more it is expanded the dimmer it becomes; so that when a high magnifying power is applied, the light upon such extended surface will not be sufficient to disclose that which would otherwise be seen; and this, added to insufficient altitude and concurrent motion, is one reason why aeronauts at a high elevation cannot see the earth rolling in space as a grand globular celestial body; and partly from this cause, and partly from the limit of human vision, some who have ascended to a great height, describe it as looking into a vast inverted frustum of a cone, with a dusky bottom, (which is a portion of the earth, dimly illuminated with its modicum of light.) We are all aware of the domical appearance of the heavens, which is well known to be the result of this limitation of vision.

Another difficulty is, the regular motion of the earth and tremulous motion of the air; another is, that great expansion renders the lines and angles indefinite, and therefore indistinct, and destroys the sharpness of outline necessary to distinct perception; these and other impediments, added to the imperfection of vision, have thus far baffled the attempts of the most skilful: nevertheless, the time may come when the ingenuity of man may overcome all these difficulties, and thus turn over a new leaf in the book of nature.

We know that daguerreotype likenesses of the moon have been taken; and as daguerreotypes are *fac similis*, and as we can concentrate any amount of solar or artificial light upon the *daguerreotype*, we might, possibly, at some future time, by applying a powerful lens, or by an instrument somewhat analogous to a solar microscope, and other appliances, be able to see whatever is on the surface of that satellite.

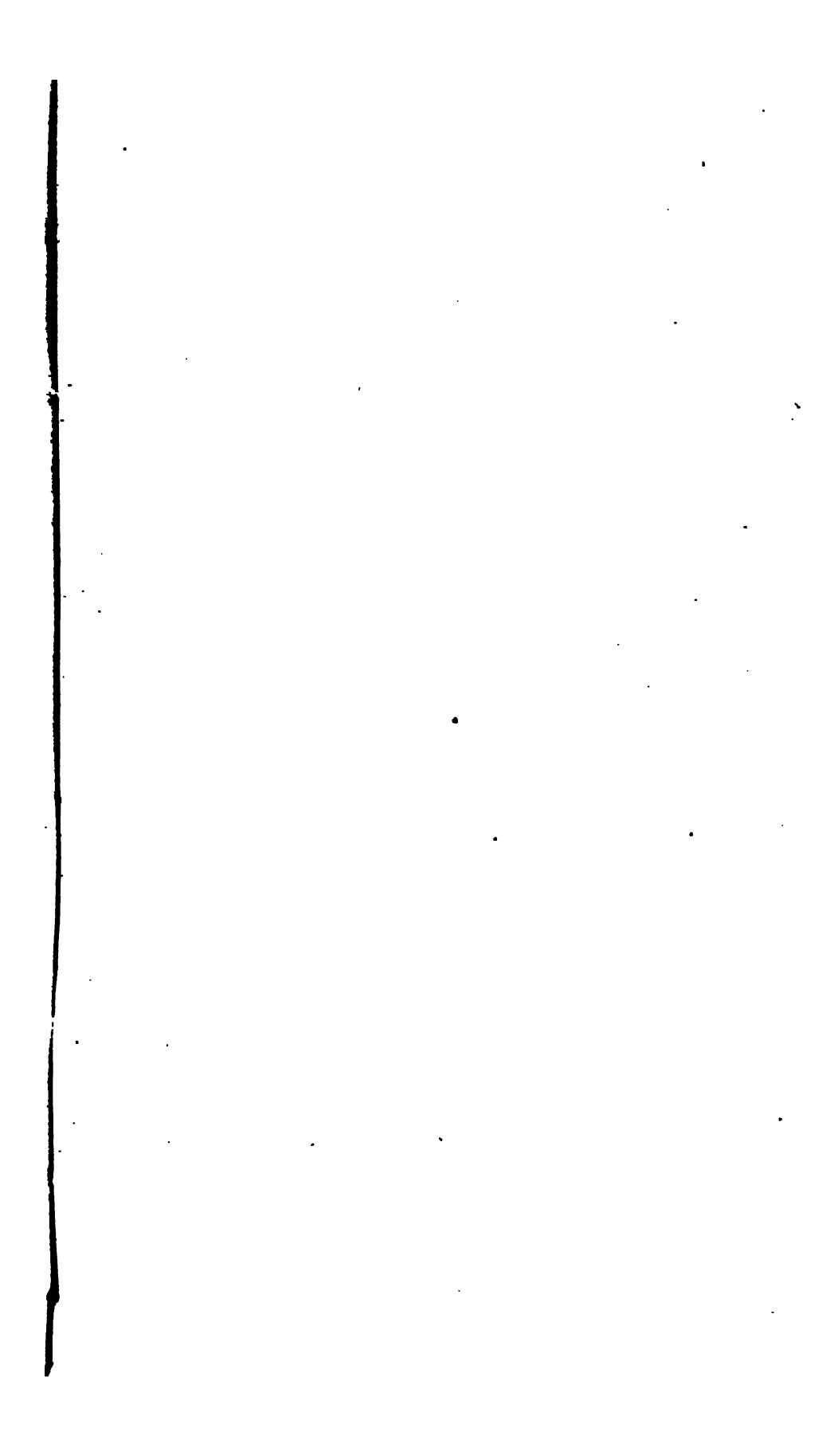
Whilst the Earth is propelled by stellar and solar attraction, with great velocity around the Sun, from west to east, the surface of the earth, particularly that portion which is nearest to the Sun, is retarded by the attraction of the Sun; the result is, a rotary motion of the Earth on its axis, from west to east, known to us as its diurnal motion.















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